



# IP Office Technical Bulletin

**Bulletin No: 109**

**Date:** 3rd August 2009

**Title:** General Availability (GA) of IP Office  
Release 5

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## IP Office Technical Bulletin

**Bulletin No:** 109  
**Date:** 3rd August 2009  
**Region:** GLOBAL

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### **General Availability (GA) of IP Office Release 5**

Avaya is delighted to announce the launch and availability of IP Office Release 5. IP Office is Avaya's Small and Medium Enterprise (SME) solution designed as a global solution for customers with up to 384 extensions. With the GA Release of IP Office Release 5 in August 2009, in accordance with the Avaya Software Support Policy, IP Office software releases 3.2 and 3.0DT will no longer be supported. No further maintenance releases (service packs) are planned for these releases. Customers reporting software issues must upgrade to release IP Office 4.2 or higher to achieve a resolution to the reported issue.

## **1 IP Office Release 5 Product Overview**

**IP Office Release 5 will be supported on the following hardware:**

- IP500
- IP406V2 (PCS 8 and later)
- IP412
- All Telephones currently supported in IP Office 4.2

**IP Office Release 5 will not be supported on the following hardware:**

- Small Office Edition
- IP401
- IP403
- IP406 (V1)
- IP406 (V2 with 16 Mb Memory – PCS 7 and earlier)

**New Core Features:**

- **1600 Telephones enhanced feature set** – New Call Lists, Directory, Menu (1608 & 1616 Telephones only) - New firmware will be available for use with the 1600 IP Telephones to support the new features.

- **Enhanced Call Handling behaviours**
  - o Call Alerting
  - o Lamp Indication
  - o Transfer of Dial Tone to Barred User
  - o Unconditional Forward to Voicemail
  - o Call Coverage to Operator Group
  - o Embedded Voicemail – Dial by Name
- **SIP Endpoint Support** (IP Endpoint License required per user)
- **T.38 Fax support over SIP Trunks** – Analogue POT port or SIP Endpoint Analogue Adaptor (IP Endpoint License required per user) for network connectivity. IP500 VCM only.
- **IP Telephony “Ease of Installation” facilities**
- **Resilient SCN** for IP Telephones and Centralized VoiceMail Pro (5.0 IP Office systems only)
- **SCN expanded from 16 to 32 Site networks** (5.0 IP Office systems only)
- **1600 Button Label Printing** direct from Manager using DESI
- **Increased Extension Capacity** – IP500/4 Port Expansion Module – increases maximum capacity from 272 to 384 extensions. The 4 Port Expansion Module is used to provide IP500 Control Unit with an additional 4 ports for connection to external expansion modules. Therefore, IP500 can now support up to 12 expansion modules
- **Increased Conference Capacity** – IP500 Conference Capacity has been increased to 128 conference channels with a maximum of 64 parties per conference
- **Increased Voicemail Channels** – IP500 can now be licensed up to 40 Voicemail Pro channels
- **Centralized IP Office Directory**

#### **New Applications:**

- **one-X Portal for IP Office** – Thin Client Telephony Management on the desktop (one-X Portal License required per User)
- **VoiceMail Pro** capability enhancements, increased number of ports & SCN Resilience compatibility.
- **Contact Store 7.8** – compatible with Microsoft Vista and Server 2008 (both 32 Bit only)
- **Customer Call Reporter 1.1 (CCR)**

#### **Applications not supported with Release 5**

- **CBC** – Compact Business Centre

- **Voicemail Lite**

*Note : Both applications are no longer supplied as part of the Administration CD*

**New Hardware:**

- **IP500 4-Port Expansion Card** – increase of 12 Expansion modules on IP500
- **New AVAYA “DECT R4”** – new IP Dect System and Telephones 3720 & 3725 for IP Office
- **1603SW** IP Telephone compatibility

**New License Key Requirements (IP Office Main Control Unit)**

- **one-X Portal for IP Office** (1 License per User)
- **VoiceMail Pro** - IP500 can now be licensed up to 40 ports
- **VoiceMail Pro** - Exchange 2007 Integration (requires UMS license)
- **VoiceMail Pro – SCN Resilience** – VoiceMailPro Server and VMPro Ports Licenses are required on the Resilient Backup IP Office
- **SIP Endpoints** Telephones and ATA Analogue Adaptors for T.38 require “IP Endpoints” license for SIP Endpoints (per User)
- **Licensing Simplification** – Please see the Licensing Simplification Section for the new Release 5 Licensing Model

## **2 New Core Features**

### **2.1 1608/1616 IP Telephone Menus**

#### **1608/1616 Telephone Menu Enhancements**

IP Office Release 5 will provide a User Interface on 1608/1616 telephones that adds functions currently offered by the Avaya/Tenovis T3 Telephone User Interface (T3). The new feature set will emulate as closely as possible the existing T3 handset menus. **This new emulation will be supported on 1608/1616 IP Telephones only. New firmware available on the Administration CD will be required to be installed on the 1600 telephones using HTTP in order to support these new features with Release 5**

The 1608/1616 telephone will offer two menus:

The existing menu of the administered features on the 1600 telephones (4400/6400 type features as in IP Office 4.2) shall be presented unchanged for compatibility.

A multi-level menu, similar to the menu on T3 telephones will also be presented. In general, the menu will contain 5-7 major menu items (phone state dependant) that will be clustering sub-functions.

#### **Menu**

Pickup (Any or Enter Number)

Park (During a call)

Forward

Group

Phone User – see Phone User menu below\*

Call Settings – see Call Settings Menu \*\*  
Voicemail (On/off, Visual Voice)

**\* Phone User Menu**

Lock  
Set Password  
Login  
Logout  
Self Administer

**\*\* Call Settings Menu**

DND On/Off  
DND Exceptions  
Internal Auto Answer On/Off  
Withhold Number On/Off  
Disable Ringer On/Off  
Coverage Ring Ring/Abbr/Off  
Redial Action List/On

## **2.2 Status Indication (1608/1616 Telephones only)**

1608 & 1616 Telephones will display the status of selected features – DND, Call Forwarding in the idle screen LCD.

## **2.3 Idle-Line Preference**

Telephones will have user level options (and user rights) set in Manager to give a direct connection to public network dial tone when the extension is taken off-hook. When an internal call is made, an access code or function key will be used before dialing.

## **2.4 Phone “Forwarded To” Indication (1608/1616 Telephones only)**

As part of the “Status Indication” enhancements, Release 5 will show the ‘Forwarded To’ number in the 1608/1616 phone display, when another phone has been ‘Forwarded To’ the user by another phone.

## **2.5 Call Alerting “Abbreviated Ring”**

When a call arrives on an idle phone’s bridged or coverage appearance, the ringer can be configured to give a short alert (Beep) to notify the user of this new call. When already on a call, abbreviated ring will be used. This requirement is in addition of the current behavior of normal ringing or silent visual alerting only, which can be set as silent visual only or alert and visual against each appearance the user has, through the phone menu or Manager.

## **2.6 Call Log Control (1608/1616 Telephones)**

This is configured in System/Telephony/Call Log. When a call appearance is picked up by coverage, there will be an option to have a missed call excluded from the target user’s call list, but the extension picking up the call will have an answered call in their history.

## 2.7 Directory Administration (1608/1616 Telephones only)

“System Phone” Users on 1608/16 Telephones are able to Add, Edit & Delete entries in the System Directory.

## 2.8 Extension Twinning enhancement

Where the centralized call-log and directory is enabled, extension twinning of two telephones such that both telephones work as one for supportable functions *where the phone types permit (1608/1616)*, including caller lists, redial list and personal directory.

## 2.9 Visually Differentiate External Call (1600 Telephones only)

This setting is applied to the lamp flashing rate used for bridged appearance and call coverage appearance buttons on 1600 Series phones and on BM32 button modules. When selected, external calls alerting on those buttons will use a slow flash (200ms on/50ms off). If not selected or if the call is internal, normal flashing (500ms on/500ms off) is used.

## 2.10 Drop of a Conference Call

Release 5 will add a new setting in Manager (System/Telephony/Inhibit External Only Impromptu Conference) that forces external participants to drop from a conference call when the last internal conference participant drops.

## 2.11 Programmed Label in Phone Display

Release 5 will show the programmed label and not the number in the phone display for short code dialing on function keys.

## 2.12 Transfer Dial Tone to Barred User

For each call attempt, the operator can permit a user who is barred from dialing out or is call restricted from dialing certain numbers to make an outgoing call. The user is provided with dial tone to indicate that they start dialing. The method utilized will be that the Operator will perform a “supervised” transfer to the barred/restricted User.

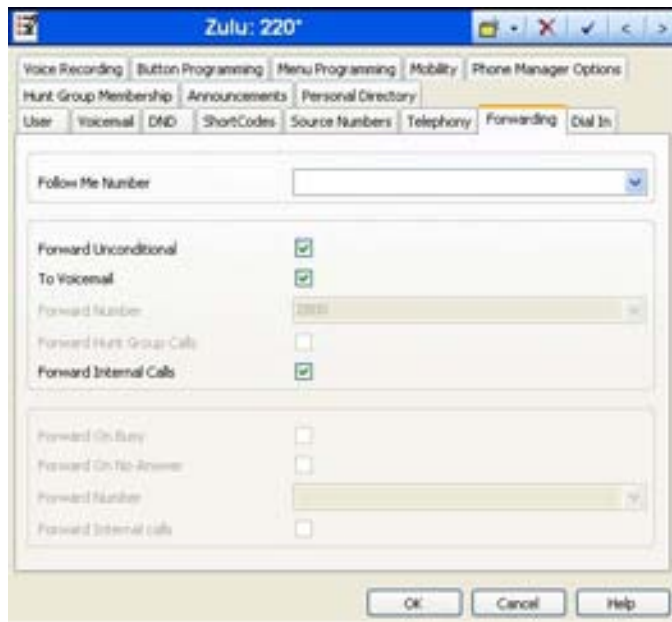
Note : ***Line seizure must be utilizing an ARS Plan with Secondary Dial Tone enabled.*** The operator will only be allowed to transfer Dial Tone to verified Users on the system either locally or over an SCN connected remote system.

## 2.13 Unconditional Forward to Voicemail

The ability to forward all calls, or external only calls to Voicemail, even when the User's voicemail is not set. The setting can be configured in Manager, or via the 1608/1616 series phone new Menu User Interface, under Forward>Fwd Unconditional.

Clearing Forward Unconditional also clears the ‘To Voicemail’ setting from both Manager and telephones.

If the Users Voicemail is not set to on, the call will go to the default voicemail route.



## 2.14 Centralized Call Log and Personal Directory (1608/1616/T3 Telephones and one-X Portal only)

Centralized Call Log & Directory moves the control of the User's Call Log and Personal directories from the 1608/1616 phones into the IP Office Control Unit. This provides complete control over storage of records, and supports Hot Desking over SCN.

The Centralized Directory and Call Log Applications are accessible from 1608/1616 telephones and one-X Portal for IP Office (1603 does not have a Contacts button) and T3 telephones on the following IP Office platforms in this release: IP500, IP412 and IP406v2. The Call Log and Personal Directory applications will continue to operate unchanged on 5400, 5600 and T3 from IP Office 4.2 functionality.

These changes fall into 3 areas:

1. Personal Directory
2. System Directory
3. Call Logs

A new Personal Directory capability is introduced in Release 5 allowing for up to 100 entries per user, up to a per-system limit. The entries will be held in the standard configuration, associated with each IP Office user.

- Personal directory entries are stored as part of the User record. They are accessible over SCN when Hot Desking to another 1600 or T3 phone.
- User Limit: 100 entries
- System Limit:
  - o IP500: 10800
  - o IP412: 3600
  - o IP406v2: 1900
- Personal contacts can be viewed and edited in Manager/User/Personal Directory.



All Personal Directory entries may be read or modified by Manager, a compatible telephone and one-X Portal for IP Office. SCN operation is unchanged, except the personal directory data is sent and updated wherever the user is logged in.

Support on IP 412 and 406v2 platforms will be limited in capacity. Personal Directory will be accessible to view, add, modify and delete, via Manager, one-X Portal for IP Office, T3 and 1600 telephones.

T3 telephone personal contacts will change to use the new mechanism in order to support hot desk Users between T3 and 1608/1616 telephones. Personal Directory entries will be transferred across the SCN to support Hot Desk Users.

### System Directory

The general internal system directory capacity of IP Office is increased to 5,000, along with an expanded import and export capability to allow interaction with one-X Portal for IP Office, other IP Offices and the new IP DECT R4 solution (AIWS Unit required on the DECT R4 system for Directory Integration). The original general format and storage will remain the same to allow self contained IP Office systems, but the new capabilities allow bidirectional exchanges between IP Offices, IP Office and one-X Portal (read-only). Existing IP DECT directory integration will be unchanged.

Authorized Users (System Phone) are permitted to add, modify and delete entries in the local IP Office system phone Directory entries. This is enabled using a 1608 or 1616 Telephone, designated as a "System Phone" in the User configuration.

An HTTP import and export mechanism is supported to expose the system directory to other IP Office systems and the one-X Portal Server.

HTTP directory options are now added to the System | LDAP configuration – renamed to 'Directory Services'. This will allow a centralized system directory for an

SCN, configuration allow remote IP Office systems to select either an SCN trunk or simply the host IP Office IP Address.

The screenshot shows the 'Directory' configuration tab in the IP Office Manager. The 'Directory Type' is set to 'IP Office'. The 'Source' dropdown menu is open, showing options: 'None', 'IP Office' (selected), 'IP Office SCN', and 'All'. The 'List' dropdown is set to 'All'. The 'URI' field contains '/system/dir/complete\_dir\_list'. The 'Refresh Interval (secs)' is set to 3600.

The advantage of this is that in an SCN environment, multiple IP Office systems can utilize one Centralized System Directory. This will also allow the one-X Portal for IP Office Server PC to extract the system directory for each system it is directly connected to.

Note : one-X Portal will not extract a full SCN User/Hunt Group Directory for an SCN by connecting to just one IP Office. It will only extract the User Lists, Group Lists and System Directory to each system it is directly connected to.

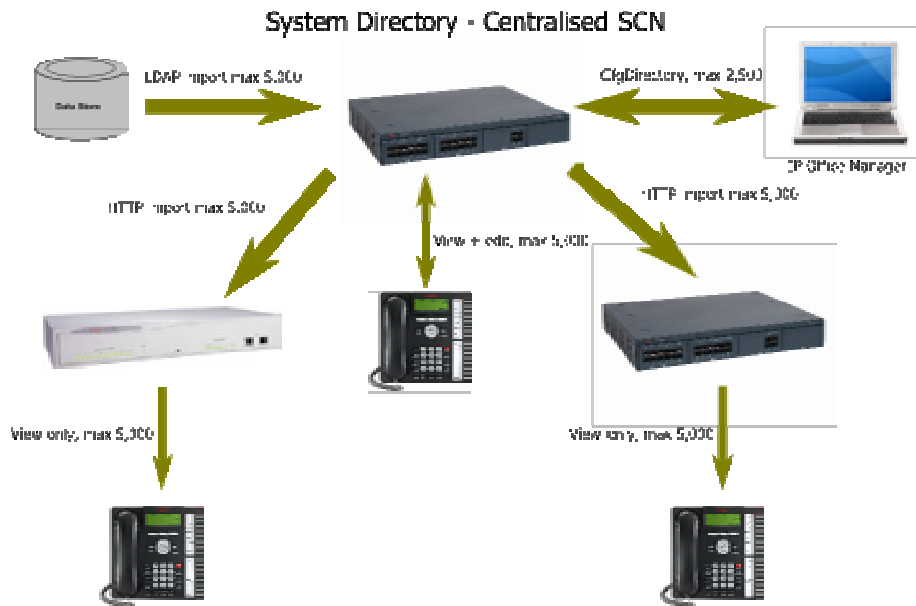
The System Directory configuration capacity configured from Manager is increased to a maximum of 2500 entries.

The LDAP import maximum capacity is increased to 5,000 (IP500). See table below. The HTTP import maximum capacity is 5,000 (IP500). See table below.

The Directory Record limits for IP Office will be:

| IPOffice | IPOffice Directory Configuration | LDAP Imported entries | HTTP Imported entries (Centralized Directory) | Total Overall Maximum Number of entries |
|----------|----------------------------------|-----------------------|-----------------------------------------------|-----------------------------------------|
| IP500    | 2500                             | 5000                  | 5000                                          | 5000                                    |
| IP412    | 2500                             | 2500                  | 2500                                          | 2500                                    |
| IP406V2  | 2500                             | 2500                  | 2500                                          | 2500                                    |

The "NoUser" Source Numbers that permitted increasing the Directory Limits in previous releases are not supported by Release 5 and will have no effect.



The Directory maximum capacities and current status can be viewed in SSA in the Resources / Directory section.

### 2.15 Call Coverage to Operator Group (Coverage Group)

Release 5 will enable users to be configured with a “coverage” for Hunt Groups including remote Hunt Groups. This option will be found as a drop down box in Manager/User/Telephony/Supervisor Settings. This facility can also be restricted by a User Rights value.

A User may have 1 Coverage Group active at any time. Multiple Users may share a group. The Coverage Group’s service status and Fallback configuration will be honored in determining which Hunt Group’s members list is used for this feature, other Hunt Group configuration such as Queuing or Ring Mode does not affect this feature.

External Calls to a User with a Coverage Group configured will target as if the User’s Voicemail setting is set to off, irrespective of the User’s configuration. This will result in new External Calls receiving Busy if no target can be found, or remaining on the final target(s) if alerting and not answered.

**Internal calls do not follow Coverage Group rules. This feature is for External calls only.**

At the point that an External Call to a User would normally target voicemail, the Coverage Group configuration of the originally targeted User will be assessed and if configured, the call will start to target the members of the in service Coverage Group as well as the final targeted User. Coverage telephones will ring in a collective group mode irrespective of the groups’ configured group ringing settings. The call will target the members of the coverage group and not the actual group.

Calls alerting at Coverage Group extensions (members of the Coverage Hunt Group) will have Calling Party and Original Called Party information displayed, in the format standard to the phone display type.

Calls that are targeted but not answered by covering Users, will not have a "Missed Call" event logged in the centralized call log.

Calls targeting to a coverage destination that cannot be resolved or out of service group with no Fallback configured will give busy tone to the caller.

## **2.16 Button Label Printing (16xx Series Telephones Only)**

Release 5 will add the ability to print for all 1600 series telephone button labels from Manager, including labels for optional button modules.

IP Office Manager Application will support the printing of User's Button Labels for the 1600 telephones and DSS Expansion via the DESI label printing tool available from the AVAYA support web pages (<http://support.avaya.com>)

Within the Manager application under the Tools Menu will be the option: "Print Button Labels". This will open a window that is populated with the system's current users and permits the operator to configure which device labels will be exported.

## **2.17 Embedded Voicemail Enhancement – Dial By Name**

Dial-by-Name functionality can be accessed through Auto-Attendant. An Auto-Attendant instance can be selected by shortcode or as the destination for an incoming call route. If Dial-by-Name has been configured for the selected Auto-Attendant and the caller presses the appropriate key to select that option, the caller will be prompted to spell out the required name on their keypad, pressing '#' to indicate the end of their input. If the caller does not enter any digits for a set timeout period, the attempt will terminate.

When the '#' key press is detected, an attempt will be made to match the input to a first or last name in a list consisting of users and hunt groups. The match will be made against the full name or name if full name is not available; any user with the 'ex directory' option selected will not be matched.

The caller will be prompted to select one of the matched users, e.g.

"Press 1 for <name 1>, Press 2 for <name 2>".

In order for a user's name to be included in the list, they will have to have recorded their name using the Embedded Voicemail menu. Options have been added to the current greetings menu to enable the user to hear, change and save their name recording (when in the Voicemail menu - Press \*05). This recording will be used when the list of matched names is presented to the caller. If no name has been recorded, that User/Hunt group will not be included in any match list. If the number of successful matches exceeds nine entries they will be prompted to press '0' for more options. If the caller selects one of the options 1 to 9, the call will be targeted to the associated user. If the caller presses 0, the next matching list of up to 9 names will be played.

On the Auto Attendant Tab, a new drop down field “Dial by Name Match Order” will be introduced allowing selection from options; First Name / Last Name or Last Name / First Name, will be introduced. The drop-down menu for actions on the auto-attendant actions tab will include the option Dial-By-Name. The 16xx telephones allow language specific accented characters to be included in the character sets. The directory assistant look-up mechanism will be enhanced to enable matching where the name field might include these accented characters. First Letter dialing directory lookups will be made obsolete, leaving dial by name the only configurable option.

| Auto Attendant |                 | Auto Atten:1           |  |
|----------------|-----------------|------------------------|--|
| Name           |                 | Auto Attendant Actions |  |
| Auto Atten:1   |                 |                        |  |
| Key            | Action          | Destination            |  |
| 0              | Blind Transfer  | 407 Extn407            |  |
| 1              | DialByNumber    |                        |  |
| 2              | Normal Transfer | Window                 |  |
| 3              | Replay Greeting |                        |  |
| 4              | DialByName      |                        |  |
| 5              | Not Defined     |                        |  |
| 6              | Not Defined     |                        |  |
| 7              | Not Defined     |                        |  |
| 8              | Not Defined     |                        |  |
| 9              | Not Defined     |                        |  |
| *              | Not Defined     |                        |  |
| #              | Not Defined     |                        |  |
| Fax            | Blind Transfer  | 402 Extn402            |  |

IP Office Manager now provides a new Embedded File Management utility under “Advanced Settings” – which enables simple selection and transfer of Embedded Voicemail Files to the memory card.

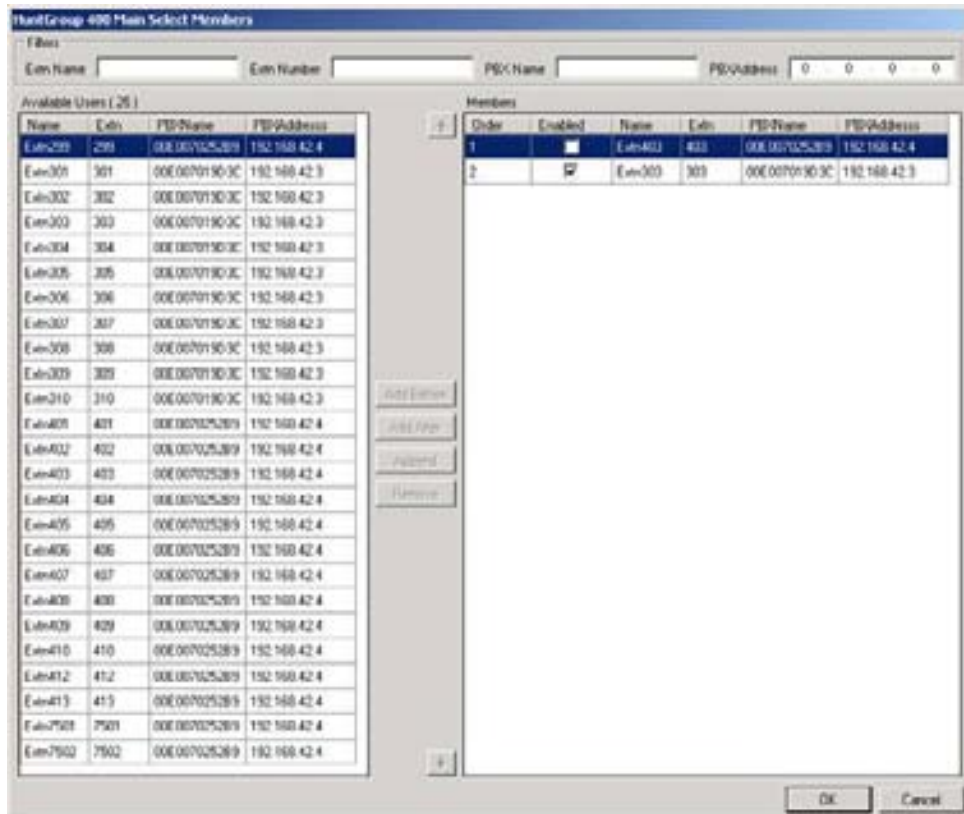
Embedded Voicemail Files are now installed with Manager as a folder in Avaya/Manager/LVMSound rather than the zipped file on the Administration CD.

## 2.18 SMDR to replace CDR

IP Office release 5 will no longer generate Call Data Records (CDR). IP Office release 4.2 introduced IP Office generated Station Messaging Detail Reporting (SMDR) which will be utilized going forward.

## 2.19 Manager / Hunt Group Configuration

Release 5 enables greater use of distributed hunt groups over Small Community Networks – up to 32 site networks can be achieved. It was therefore required that the Manager / Hunt Groups facilities should be enhanced to allow faster navigation of the local and advertised hunt groups for the allocation of group membership. The Manager Hunt Group form now allows the administrator to select hunt groups network wide or from particular systems and utilize filters to search and allocate specific group members. Drag and Drop has been enabled to allow manipulation of Users ring order in a Sequential, Rotary or Longest Wait Hunt Group



## 2.20 Short Code Feature “Busy” is renamed “Barred”

The Short Code feature ‘Busy’ will be renamed ‘Barred’ in all internal code and external application references.

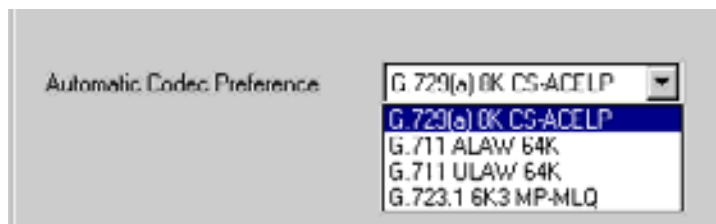
## 2.21 Automatic Codec Preference

A new field will be added to the System > Telephony > Telephony form called “Automatic Codec Preference”; this will be a drop-down list with the following values:

- G729(a) 8K CS-ACELP
- G.723.1 6K3 MP-MLQ
- G.711ULAW 64K
- G.711ALAW 64K

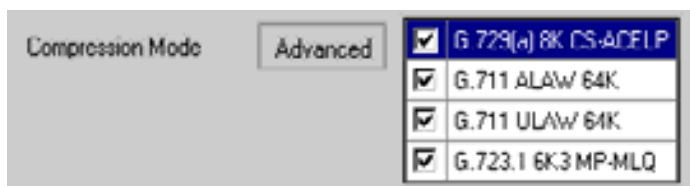
Default “G729(a) 8K CS-ACELP”. This will not be functional and changes will require a re-boot. The value will be used for constructing the Codec list for calls to/from lines/extensions set to Compression Mode = Automatic. This will apply to all VoIP interfaces (H323 and SIP).

The Default ensures that if no config change is made then the behavior is as previous releases. When a codec type is selected it is moved to the front of the list. If either G711 codec is chosen then the other will be made number two.



## 2.22 Advanced Codec Selection

The existing Compression Mode drop down on SIP Trunks (SIP and SES) will have an accompanying “Advanced” button (click on, click off). When in advanced mode the Drop-down will be replaced with a control similar to the Hunt Group Extension list.



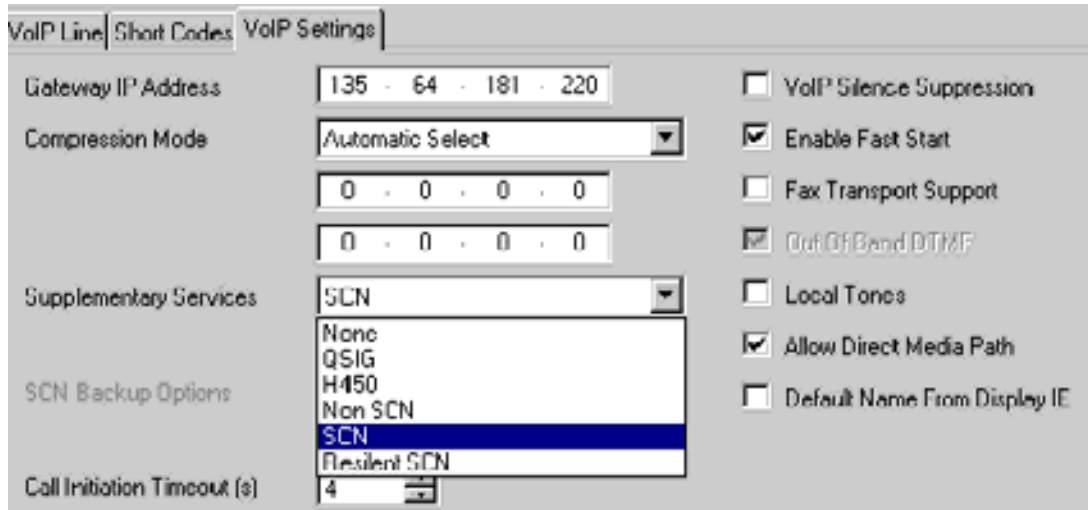
The list will contain the codecs in preference order; the order can be modified by drag and drop, with a checkbox to enable/disable. When entering advanced mode the list will reflect the current Compression Mode setting; if it is set to “Automatic” the list will be ordered as dictated by the Automatic Codec Preference setting with all codecs enabled, if the setting was a specific codec then the list will have that one at the top and it will be the only one enabled.

## 2.23 Simplification of VoIP Settings in Manager

IP Office has a variety of VoIP configuration settings for IP trunks and extensions. Release 5 will configure VoIP settings with the following changes which will be made to the controls/settings;

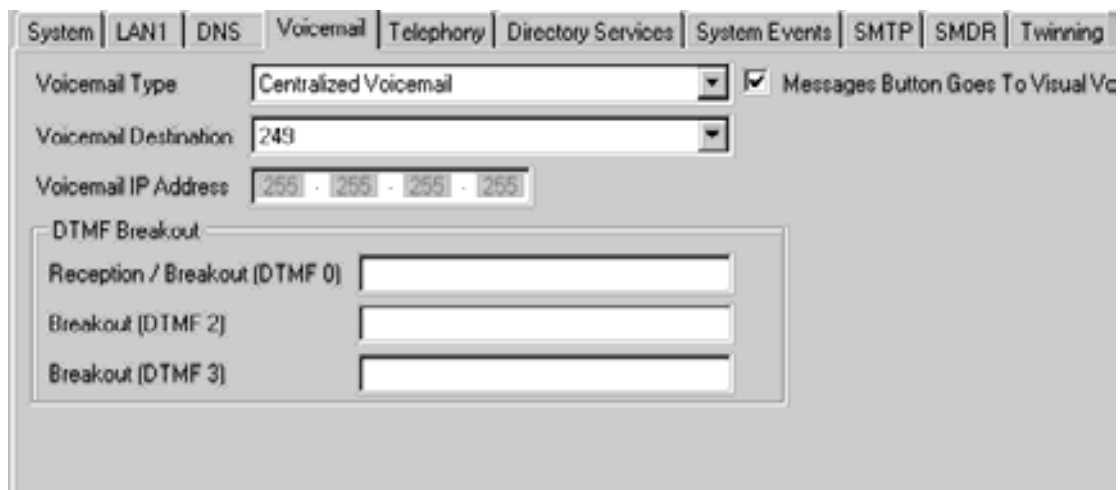
There is a Drop-Down list with the following selections:

- None
- QSig
- H450
- SCN (Previously Voice Networking)
- Resilient SCN – Fallback route for backup IPOffice – see Resilient SCN section for further detail
- Default = “IP Office SCN”



## 2.24 Voicemail Reception Enhancement

In order to simplify installs, in Manager, we will add options for setting the User > VoiceMail > VoiceMail Reception values for multiple users to the System > VoiceMail tab. This will also be added to User Rights.



## 2.25 New User Group Pane Columns

The following items are added as selectable columns in the Group Pane for Users:

- VoiceMail Email Mode (on/off)
- VoiceMail Email (E-Mail address)
- Twinning (None, Internal, Mobile)

These will be visible for all configs (not just Release 5).

## 2.26 1600 Telephones Phone Locked setting

1600 telephones will utilize a new User setting 'Phone Locked' which will inhibit the accessing of certain configuration changes and personal data from the locked phone. This is a different mechanism to the Outgoing Call Bar feature used by T3/T3IP Phone Locked behavior, however when enabled the phone user will be prevented from making outgoing external calls.

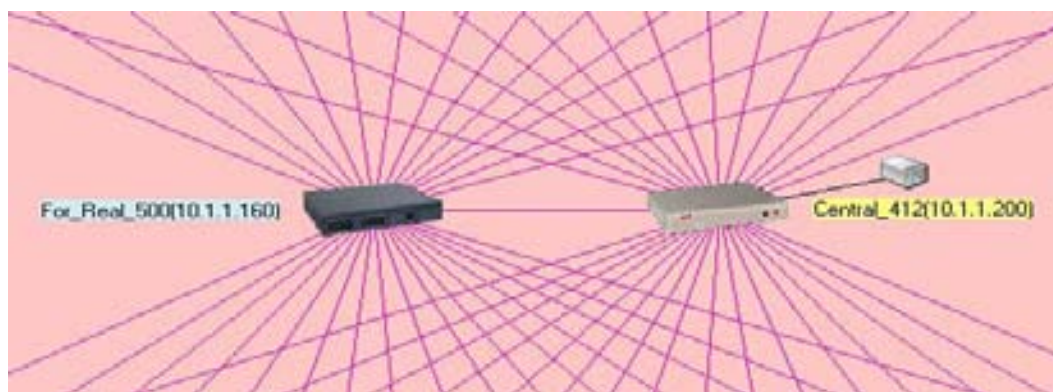
Feature key button presses and dialed shortcodes other than dial emergency will be ignored when the phone is locked. Feature key status lamps will be maintained.

Appearances can still be selected and incoming and internal outgoing calls attempted. Only Dial Emergency shortcode will work

## 2.27 SCN Resiliency – IP Office Fallback solution for IP telephones, Hunt Groups and Voicemail Pro

IP Office software delivers increased capacity for IPOffice Small Community Networks supporting up to 32 nodes in a single SCN. Additionally, this solution is to deliver increased resilience to single unit failure. An IP Office can be used to provide a secondary Gatekeeper to IP telephones on an adjacent IPOffice within a Release 5 SCN Network.

On complete failure of an IP Office, the IP telephones will try to reconnect to their main IP Office, after a period of 3 minutes (3 x registration attempts @ 1 per minute) they will try their secondary system. The Fallback IP Office will maintain a record of these remote IP telephones and allow registration and DHCP server if required, and will advertise the Users as if they were hot-desked to the Fallback system. The Fallback system will act as a call server until re-establishment of the Primary system. The Fallback system will also connect to the Voicemail Pro Release 5 and maintain service until the Primary system is re-established on the SCN network. The IP Office allocated to be the Voicemail Pro Fallback system must also be configured with Voicemail Pro licenses in order to work.



A Fallback IPOffice could be a Remote "live" SCN Node or a standby system in the same premises as the Primary system, working in an idle state until such a time that it is needed.

### Required Components and configuration:

- IP500/406V2/412 Release 5
- IP Telephones 4600, 560 and 1600

- IP Telephones utilizing IP Office Resilience are primarily intended to be configured as DHCP– provided by the “Primary” IP Office system (Call Server) although testing has revealed the telephones configured as DHCP from an alternative DHCP Server or are statically assigned will work also provided they are not give a secondary gatekeeper IP Address by an alternative means.
- SCN Trunk Network will be ideally set as a “meshed” configuration (not the “star” configuration as required for SCN functionality in previous IP Office versions <4.2
- Version 5.0 Voicemail Pro (Can be licensed up to 40 Ports) – the Fallback IP Office must be configured with VM Pro license keys up to the number of ports required for resilience plus any specific licensed VM features (TTS, UMS etc) that are required during the fallback period must also be licensed.
- **Manager > User Rights settings should be duplicated to the “Fallback” IP office system to maintain button and feature configuration when IP telephones connect to the Fallback system.**
- **Manager > Auto Create Extension should be disabled on the Fallback IP Office**

### **Resiliency Configuration**

A Release 5 SCN Network will now support a “Meshed” Topology as well as the “Star” network utilized on previous software versions. A “Meshed” network configuration would allow each 5.0 IP Office to have an SCN Trunk allocated to other 5.0 IPOffice systems on the same network, this allows multiple routes into the SCN and allows for alternate routes on failure.

IP Office systems with 4.X software will only support a single SCN trunk into a 5.0 SCN network.

**If an SCN link is configured to connect to an IP Office system running software prior to release 4.X, the SCN will not become active, and the trunk will be marked as disabled with an alarm in SSA.**

IP Office Release 5 will permit an H323 trunk that is configured as a “Resilient SCN” trunk in the drop down list of choices to be marked as the Secondary (Backup) PBX for resiliency. The backup system is only required to have an SCN trunk to the main system. Provided it holds the correct license keys for Release 5 and Voicemail Pro, there is no further configuration required for basic operation.

Not more than one H323 trunk may be marked as Resilient SCN (Secondary PBX) for Resiliency on an IP Office. If more than one trunk has been configured in this way, Manager will raise an error. This mechanism identifies to the IP Office the IP address of the PBX that will provided secondary Gatekeeper duties.

| Setting                      | Value                                                                                                                                                                                 |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gateway IP Address           | 135 - 64 - 181 - 220                                                                                                                                                                  |
| Compression Mode             | Automatic Select                                                                                                                                                                      |
| Supplementary Services       | Resilient SCN                                                                                                                                                                         |
| SCN Backup Options           | <input checked="" type="checkbox"/> Backs up my IP Phones<br><input checked="" type="checkbox"/> Backs up my Hunt Groups<br><input checked="" type="checkbox"/> Backs up my Voicemail |
| Call Initiation Timeout (s)  | 4                                                                                                                                                                                     |
| VoIP Silence Suppression     | <input type="checkbox"/>                                                                                                                                                              |
| Enable Fast Start            | <input checked="" type="checkbox"/>                                                                                                                                                   |
| Fax Transport Support        | <input type="checkbox"/>                                                                                                                                                              |
| Out Of Band DTMF             | <input checked="" type="checkbox"/>                                                                                                                                                   |
| Local Tones                  | <input type="checkbox"/>                                                                                                                                                              |
| Allow Direct Media Path      | <input checked="" type="checkbox"/>                                                                                                                                                   |
| Default Name From Display IE | <input type="checkbox"/>                                                                                                                                                              |

4600, 5600 and 1600 series telephones using the IP Office Registration/DHCP mechanism will receive the Primary and (when configured) Secondary Gatekeeper IP addresses.

When a User of an IP phone registers with a PBX configured with a secondary PBX for resiliency, the secondary PBX is informed to act as a backup gatekeeper for this extension / user. It will store the current DHCP IP Addresses of the telephones as it is expected that the telephones will exist on a different subnet to the Secondary Gatekeeper.

When the primary PBX fails – Power failure or LAN port disconnected, the IP extensions and users that have been identified for resiliency are already stored by the secondary PBX.

The IP Telephones will attempt to register to their main system for approximately three minutes, before attempting registration with their allocated 2<sup>nd</sup> Gatekeeper. If the secondary PBX then receives a registration request from the phone, it will start to advertise the User on the SCN as if it were hot desking to it. Calls will then be routed to the extension via the secondary IP Office. While in Backup operation, these telephones will show “R” in the telephone display.

When IP Office A is restored the User remains on the secondary (backup) IP Office until the phone is forced to re-register (for example after a power cycle of the phone or forced re-registration using SSA or System Monitor IP Phone Status).

SSA will identify extensions that are currently registered with the Secondary Gatekeeper in the Extension Summary form. It will be possible to select these extensions and invoke a bulk re-register action upon them to enable extensions to re-register with the Primary Gatekeeper

### IP Phone Backup Gatekeeper Operation – Visual Indication

4600, 5600 and 1600 series telephones registered with the Secondary Gatekeeper PBX will display the letter ‘R’ in the feature status location.

### Hunt Group Resiliency

All advertised Hunt Groups will be marked to be supported for resiliency to a secondary PBX when the Secondary PBX for Resiliency is checked.

The secondary PBX will only start to advertise the Hunt Group to the SCN (as temporary master) when the secondary PBX responds to an IP phone registration request as a backup gatekeeper.

**Resilient Voicemail Pro version 5.0**

The Voicemail Pro Server must be version 5.0 if resilience is required, to connect to the backup system on failure of the main system and re-connect to the main IP Office when it is available within a period of a few minutes. The Backup IP Office must also be licensed for Voicemail Pro channels and any specific Voicemail Pro functionality that is required to support features whilst in backup mode, i.e. UMS, Text to Speech, VBScript.

**2.28 SCN Expansion to 32 Nodes/500 Users**

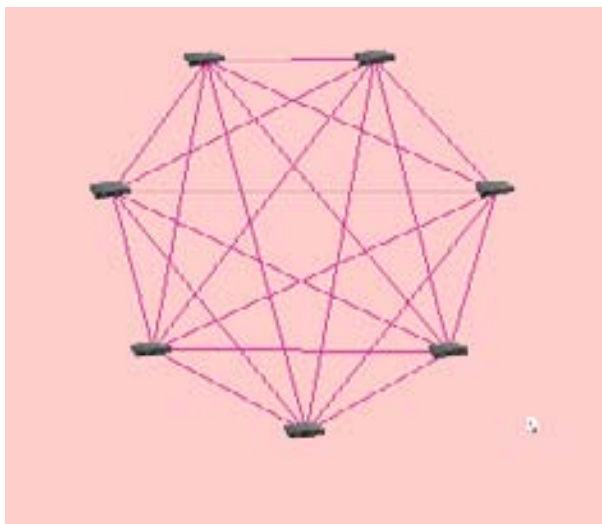
Release 5 will add extra capacity to the Small Community Network (SCN), such that up to 32 nodes and a total of 500 users (500 Users is the same maximum as a 4.2 SCN network) across the network will be supported.

Required Components and configuration:

- IP500
- IP406V2
- IP412
- Relevant SCN Networking licenses
- SCN Trunk Network can be configured as a “meshed” or “star” configuration
- Maximum of 500 Users on the SCN network – it is recommend that spare “Users” on systems be deleted from configurations to minimize the number of advertised network Users.
- Version 5.0 Voicemail Pro (Can be licensed up to 40 Ports)
- If more than 16 Nodes (17 – 32) – no 4.2 IP Office systems are supported on the SCN network, Release 5 systems only will be supported in this configuration.

The maximum number of Nodes in an SCN configuration is increased from 16 to 32 nodes. Any SCN greater than 16 Nodes must be Release 5 on each IP Office on the network. Therefore, any current IP Office systems in an SCN network that needs to expand above 16 Nodes, will need to be upgraded to Release 5 and reside on an IP500, IP406V2 and IP412 platform. IP406v1, Small Office Edition, IP401 and IP403 cannot support , and therefore cannot be included as an SCN Node when the network exceeds 16 systems.

- A Release 5 SCN Network will support both Star and Meshed topologies.
- Pre Release 5 versions of software only support star configuration only up to 16 Nodes. Therefore, IP Office 4.X systems connected to the SCN will not be supported with multiple trunks configured as a meshed network, they must be configured using a single SCN trunk to its adjacent system (Star network). It is not recommended that a 4.X system be configured as a central hub of a star system if mixed with Release 5 Meshed systems, star network only can be supported.
- If Resilient SCN is required, a “Meshed” network configuration would be recommended, to clarify, you can configure an SCN IP trunk to every other Release 5 system in the SCN network, but only a single SCN trunk to any 4.X remote system as previously supported with IP Office 4.2.

*Meshed Network Example*

- IP Office Release 5, SCN will only interoperate with IP Office nodes running release 4.X or later software releases with a maximum of 16 SCN nodes (16 node SCN only). If an SCN link is configured to connect to a IOffice running core software prior to release 4.X for example 2.1, 3.2 or 3.0DT, the SCN “will not become active”, and the trunk will be marked as disabled with an alarm in SSA.
- Small Office Edition systems will not be compatible with Release 5 and therefore need to utilize core software 4.X, and can only exist in 2 to 16 node SCN networks. Version 4.X systems can reside in the same SCN network as Release 5 systems provided “previous SCN (4.X) functionality only” is required, and the SCN network does not exceed 16 nodes.
- The oldest version that can interoperate with Release 5 IP Offices on a 2 to 16 node network is 4.0
- SSA Release 5 and System Monitor will provide support for up to 32 nodes when displaying SCN related information.

## 2.29 SIP Endpoint Extension Support

In order to use a SIP endpoint with IP Office, a “IP Endpoint license” is needed. This license will continue to support endpoints based on the H.323 standard but will also be required for generic SIP endpoints on IP Office

SIP Endpoint support is fully integrated into IP Office core Release 5. SIP endpoints will need VCM module capacity in IP Office like any other IP telephone. Next to SIP telephones, SIP terminal adapters are supported to connect analog phones and fax machines.

SIP extensions function like any other IP Office extension with the supported features below.

This means they:

- Can make and receive calls to any other extension, independent of type of extension

- Delivers end to end Media just like any other IP telephone on IP Office. For calls between two SIP extensions of a SIP extension and a Avaya IP telephone, the audio is transmitted end to end for basic telephone calls. (Conferences etc. however require a VCM resource).
- Can use short codes and authorization codes like any other phones
- Transmit In band call progress tones are delivered from IP Office
- A SIP phone needs to register with IP Office like any other IP telephone, Authentication with Username and password is possible
- SIP extensions support "auto create" in IP Office to make installation fast and efficient. Successful registration of a endpoint will consume one third party license
- On one IP address, several extension can register with IP Office, each consuming a license. This enables the connection of SIP terminal adapters with more than one analogue port, giving a different extension number to each of the ports.

## SIP Endpoint Support

Avaya fully supports telephones that have been tested in the DevConnect program. Please refer to the DEV connect testing document for the details of these phones and the used software version.

SIP Endpoints used to verify the SIP implementation are listed below. If the devices on this list have not been certified by the DevConnect program, Avaya will address any issues in the IP Office software when using these devices provided that the devices are using the documented software versions and features (see IP Office Knowledge Base for full list of supported features). However, Avaya can not provide support if the problems are caused by the device itself. Avaya will periodically update this list and will only provide support against devices and software versions specified in the most recent list..

|                                          |  |  | SIP Conference Phones       |            | Analog Terminal Adapters |                    |             |          |        | WiFi phones         |            |
|------------------------------------------|--|--|-----------------------------|------------|--------------------------|--------------------|-------------|----------|--------|---------------------|------------|
|                                          |  |  | Clear One                   | Polycorn   | Avaya Quick Edition      | Patton             | Innovaphone |          |        | Ascom               |            |
|                                          |  |  | MAX IP                      | 7000       | A10 ATA                  | SmartLink™ M.ATA   | IP22        | IP24     | IP28   | 05                  |            |
| Softwareversion on IP Office             |  |  | R5 GA                       | R5 GA      | R5 GA                    | R5 GA              | R5 GA       | R5 GA    | R5 GA  | R5 GA               |            |
| Softwareversion used on the phone/Device |  |  | 03-05-07                    | 3.1.2.0392 | R3.21                    |                    | 7.00        | 7.00     | 7.00   | 1.6.12              |            |
|                                          |  |  | PC and mobile phone clients |            |                          | Desktop Telephones |             |          |        |                     |            |
|                                          |  |  | Counterpath                 |            | Nokia SIP client         | Dors               | Grandstream |          | Snom   | Polycorn Soundpoint |            |
|                                          |  |  | Eyebeam                     | X-lite     | E61i                     | IP 810C            | GxP 2000    | GxP 2020 | 320    | 320                 | 601        |
| Softwareversion on IP Office             |  |  | R5 GA                       | R5 GA      | R5 GA                    | R5 GA              | R5 GA       | R5 GA    | R5 GA  | R5 GA               | R5 GA      |
| Softwareversion used on the phone/Device |  |  | 1.5.19.2                    | 3.0        | RM-227 1.0633.22.11      | 7.1.31             | 1.1.6.16    | 1.1.6.16 | 6.5.18 | 2.1.2.0049          | 1.6.7.0130 |

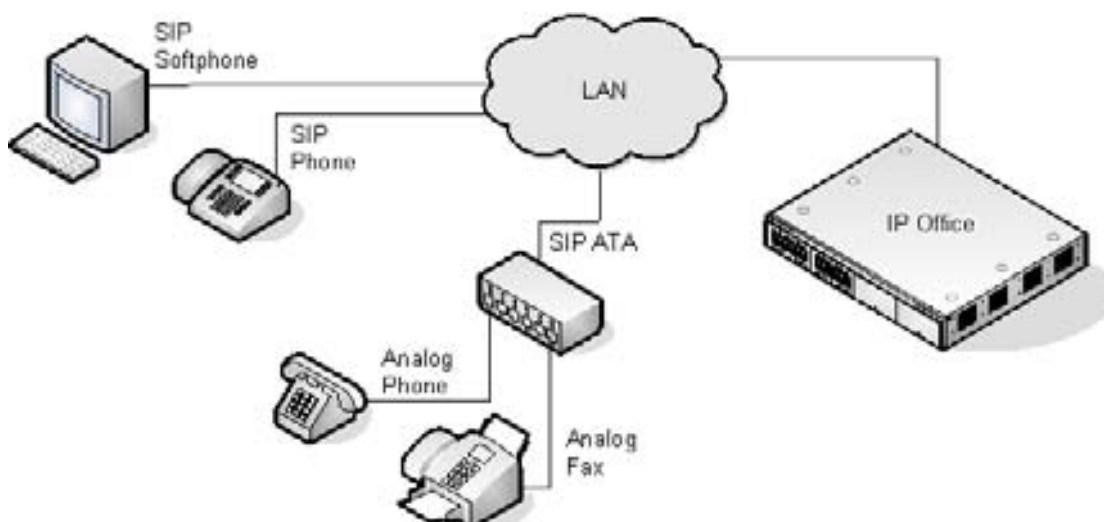
SIP Endpoint devices that have been used and verified outside of Avaya. Avaya can not guarantee that these devices will work flawlessly. Avaya can not verify that these devices will work in future releases of IP Office. Avaya will not oblige to support these phones.

## SIP Endpoint Registration

SIP Endpoints will be able to register as an extension number on the IP Office. They can be optionally authenticated with a username and password (User Login Number).

Either LAN1 and/or LAN2 can support SIP endpoints. IP Office will support more than one extension (registration) for one device/IP Address. You cannot register the same extension with a different device/IP Address.

- Registered as an extension number of IP Office
- Optionally authenticated with username and password
- Auto create extension and user – separate control to H.323 and IP DECT.
- Successful registration consumes one IP Endpoint License count
- Either LAN1 and/or LAN2, up to 384 extensions (system maximum users) on IP 500 (no 4 port expansion required)
- More than one extension (registration) for one device/IP Address – ATA support
- Cannot register same extension with different device/IP Address



### No NAT

Connection of SIP extension devices from locations where Network Address Translation (NAT) is applied to the connection is not supported. The IP Office does not provide NAT traversal services (for example STUN or TURN) for SIP extension devices.

### Multiple Line SIP Devices

Some SIP devices can support multiple lines or user accounts, each configured separately. If used with an IP Office each SIP line requires a separate IP Office SIP extension, user and license. Note this refers to a SIP device that can handle multiple simultaneous calls itself and not one that is handling multiple calls by holding them on the IP Office/receiving call waiting indication for waiting calls on the IP Office.

**The IP Office is the SIP Registrar and SIP Proxy**

In most cases, a SIP extension device is configured with settings for a SIP registrar and a SIP proxy. For SIP devices connecting to an IP Office the LAN1 or LAN2 IP address on which the SIP registrar is enabled is used for both roles.

**IP Office Voice Compression = SIP Audio Codec**

Unlike H323 IP devices which always support at least one G711 codec, SIP devices do not support a single common audio codec. Therefore it is important to ensure that the IP Office SIP extension codecs match a codec for which the SIP device is configured.

**IP Office Call Waiting = SIP 'REFER'**

For the IP Office user associated with a SIP extension, Call Waiting should be enabled if the SIP device supports REFER. This is required for functions such as transferring calls.

**Phone Features**

In addition to basic features SIP endpoints support a number of extended features according to the "SIP service samples-draft", also referred to as "Sipping-19". This includes:

- Calling line identification
- Hold/Consultation Hold
- Attended/Unattended Transfer
- Message Waiting
- Do not disturb
- Conference Add

Some phones support several call appearances making it easy to switch between calls. Please note that this does not include "bridged appearances" or " (outside)-line appearances)

SIP Extensions that are within the IP Office configuration use IP End-points licenses. Successful registration consumes one license count. This license is also used for non-Avaya H323 IP extensions. There must be sufficient licenses for the number of extensions required

**one-X Portal with SIP Endpoints**

SIP Endpoints can utilize the benefits of one-X Portal, however there are some points that the user should be aware of:

- one-X Portal cannot control the off-hook status of a SIP Endpoint, therefore the SIP Endpoint will be treated similarly to an analogue POT telephone, when a call is made through the one-X client, the system will make call back to the SIP telephone, requiring the user to go off hook manually on the telephone, the system will then proceed to make the call on behalf of the user.
- It is recommended that if a User places a call on hold using the SIP telephone, the user should retrieve the call from hold using the SIP telephone rather than attempting hold retrieval by using one-X Portal client. The same applies if the call were placed on hold using one-X Portal client, the call should be retrieved using the same.

*Note : Avaya Phone Manager/ Phone Manager Pro and Soft console are currently not supported in combination with SIP-endpoints.*

## System Status Application (SSA)

IP Office SSA can display registered SIP Endpoints IP Address, Number, and Model Name if available.

### Enabling SIP Extension Support

- Note that changing the SIP registrar settings of an IP Office system requires the IP Office system to be rebooted.
- Using IP Office Manager, receive the IP Office system configuration.
- Select **System**.
- Select either the **LAN1** or **LAN2** tab as required.
- Select the **VoIP** sub-tab.

The screenshot shows the IP Office SSA configuration window with the 'System' tab selected and the 'LAN1' sub-tab active. The 'VoIP' sub-tab is also selected. The configuration includes several checkboxes and input fields:

- ☒ H323 Gatekeeper Enable
- ☒ SIP Trunks Enable
- ☒ SIP Registrar Enable
- ☒ H323 Auto-create Extn
- ☐ H323 Auto-create User
- ☒ Enable RTP Monitoring On Port 5005
- RTP Port Number Range**
  - Port Range (Minimum): 49152
  - Port Range (Maximum): 53246
- DiffServ Settings**
  - DSCP (Hex): 88, DSCP Mask (Hex): FC, SIG DSCP (Hex): 88
  - DSCP: 46, DSCP Mask: 63, SIG DSCP: 34
- DHCP Settings**
  - Primary Site Specific Option Number (SSON): 176
  - Secondary Site Specific Option Number (SSON): 242
  - VLAN: Not Present

- Check that **SIP Registrar Enable** is selected.
- Select the **SIP Registrar** sub-tab.

The screenshot shows the IP Office SSA configuration window with the 'System' tab selected and the 'LAN1' sub-tab active. The 'VoIP' sub-tab is also selected, and the 'SIP Registrar' sub-tab is now active. The configuration includes the following fields:

- Domain Name: [Empty text box]
- Layer 4 Protocol: Both TCP & UDP
- TCP Port: 5060
- UDP Port: 5060
- Challenge Expiry Time (secs): 10
- Auto-create Extn/User: ☒

**Domain Name:** *Default = Blank*

This is the local SIP registrar domain name that will be needed by SIP devices in order to register with the IP Office. If this field is left blank, registration is against the LAN IP address. The examples in this documentation all use registration against the LAN IP address.

**Layer 4 Protocol:** *Default = Both TCP & UDP*

The transport protocol for SIP traffic between the IP Office and SIP extension devices. Both TCP and/or UDP can be used.

**TCP Port:** *Default = 5060*

The SIP port if using TCP. The default is 5060.

**UDP Port:** *Default = 5060*

The SIP port if using UDP. The default is 5060.

**Challenge Expiry Time (sec):** *Default = 10*

The challenge expiry time is used during SIP extension registration. When a device registers, the IP Office SIP Registrar will send a challenge back to the device and waits for an appropriate response. If the response is not received within this timeout the registration is failed.

**Auto-create Extn/User:** *Default = On*

If this option is selected, the IP Office will automatically create user and SIP extension entries in its configuration based on SIP extension registration. If this method is being used for installation, it is important to check that the settings created match the SIP device. It is also important to deselect this option after installation of the SIP extension devices.

8. Send the configuration back to the IP Office.

## SIP Extension Settings

SIP extensions can be created manually using **SIP Extension** or automatically created during SIP device registration. Even if auto-created, the extension settings created in the IP Office configuration should be checked during installation.

This section looks just at the key configuration settings that affect SIP extension devices. Select **Extensions** and locate the SIP extension. Select the **Extn** tab.

The screenshot shows the 'Extn' tab in the IP Office configuration interface. The 'Base Extension' field is highlighted with a red box. The 'Force Authorisation' checkbox is also highlighted with a red box and is checked. Other visible fields include 'Extension Id' (0000), 'Caller Display Type' (On), 'Reset Volume After Calls' (unchecked), 'Device type' (Unknown SIP device), 'Module' (0), 'Port' (0), and 'Disable Speakerphone' (unchecked).

**Base Extension** - This should match the Extension setting of the SIP user added to the IP Office configuration.

**Force Authorization:** Default = On - If enabled, SIP devices are required to register with the IP Office system using the Name and Login Code configured for the user within the IP Office configuration.

Select the **VoIP** tab.

The screenshot shows the 'VoIP' configuration tab in the IP Office software. It contains two columns of settings. The left column includes: 'IP Address' with a numeric field showing '0 . 0 . 0 . 0'; 'Compression Mode' with a dropdown menu set to 'Automatic Select'; 'TDM->IP Gain' with a dropdown menu set to 'Default'; 'IP->TDM Gain' with a dropdown menu set to 'Default'; and 'DTMF Support' with a dropdown menu set to 'RFC2833'. The right column contains a series of checkboxes: 'VoIP Silence Suppression' (unchecked), 'Fax Transport Support' (unchecked), 'Local Hold Music' (unchecked), 'Allow Direct Media Path' (checked), 'Re-invite Supported' (checked), and 'User Offered Codec' (unchecked).

### Compression Mode

The selected mode must match an audio codec supported by the SIP device. If set to Automatic Select, then the codecs supported by the IP Office are set through the configuration option System | Telephony | Automatic Codec Preferences.

### User Offered Codec

If the SIP device is configured with a preferred first codec, enabling this option ensures that codec is used on calls to the SIP device. Release 5 will not support Video codecs.

### DTMF Support

This can be set to one of the two common methods used by SIP devices; RFC2833 or Inband. The selection should be set to match the method used by the SIP device. However, if the method is not known or can vary on a per call basis, deselecting **Allow Direct Media Path** allows a VCM channel to be used for DTMF support when necessary.

### Local Hold Music

Select this option if the SIP device supports its own hold music source.

### Re-invite Supported

If the SIP device is able to receive REINVITE messages select this option.

### SIP User Settings

SIP users can be created manually using **User** or [automatically created](#) during SIP device registration. Even if auto-created, the user settings created in the IP Office configuration should be checked during installation.

This section looks just at the key configuration settings that affect SIP extension devices.

1. Select **User** and locate the SIP extension user. Select the **User** tab.

User | Voicemail | DND | ShortCodes | Source Numbers | Telephony | Forwarding | Dial In | Voice Recording

Name: Extn334  
 Password:   
 Confirm Password:   
 Full Name:   
 Extension: 334  
 Locale:   
 Priority: 5  
☐ Ex Directory  
☐ Enable one-X Portal Services  
 Device Type: Unknown SIP device

Avaya IP Office Manager

Would you like a new VoIP extension created with this number?

☐ None  
☐ H323 Extension  
☒ SIP Extension

OK

### Name

If the SIP extension is set to **Force Authorization** (the default), this field is used as the **Authorization Name** that must be set in the SIP device's configuration.

### Extension

This should match the SIP ID of the SIP device and the Base Extension setting of the SIP extension in the IP Office configuration.

User | Voicemail | DND | ShortCodes | Source Numbers | Telephony | Forwarding | Dial In | Voice Recording

Call Settings | Supervisor Settings | Multi-Line Options | Call Log

Outside Call Sequence: Default Ring  
 Inside Call Sequence: Default Ring  
 Ringback Sequence: Default Ring  
 No Answer Time (secs): System Default (15)  
 Wrap-up Time (secs): 2  
 Transfer Return Time (secs): Off  
 Call Cost Mark-Up: 100

☒ Call Waiting On  
☒ Answer Call Waiting On Hold (Ar  
☐ Busy On Hold  
☐ Offhook Station  
☐ System Phone

### Call Waiting On

Most SIP devices require this setting to be enabled in order to allow features such as transferring calls.

Select the **Telephony | Supervisor Settings** tab.

The screenshot shows the 'Supervisor Settings' tab in the IP Office configuration interface. The 'Login Code' field is highlighted with a red rectangle. Other fields include 'Login Idle Period (secs)', 'Monitor Group', 'Coverage Group', 'Status on No-Answer', and 'After Call Work Time (secs)'. Checkboxes on the right include 'Force Login', 'Force Account Code', 'Outgoing Call Bar', 'Inhibit Off-Switch Forward/Transf', 'Can Intrude', 'Cannot be Intruded', 'Can Trace Calls', 'CCR Agent', and 'Automatic After Call Work'.

### Login Code

If the SIP extension is set to **Force Authorization** (the default), this field is used as the **Authorization Password** that must be set in the SIP device's configuration.

### SIP User Auto-Creation

SIP User/Extensions can be auto created when the SIP Extension achieves a successful login – Manager > System > LAN1 or LAN2 > Sip registrar – check the Auto/Create Extn/User to enable on.

### SIP Endpoint Configuration Hints – this are only general rules and may not apply in all cases

- User Name is the Authentication Name – on Nokia SIP Endpoints, you may need to enter this as a number i.e. the extension number
- User Login Code in Telephony/Supervisor Settings is the Authentication Pass code
- Users Extension Number is the SIP ID
- In Manager/User/Telephony enable “Call Waiting” – this may be required to allow call transfer.
- Configure the Endpoint to use UDP
- Enter the Server addresses as the IP Address of the IP Office control unit
- In Manager/LAN1:LAN2/VoIP check “SIP Registrar Enable” on
- In Manager/License you need one instance of the IP-Endpoint License for each SIP Endpoint registered



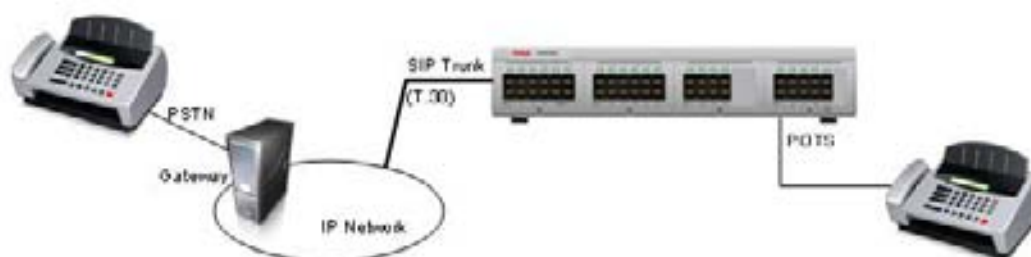
### 2.30 Transmission of fax over IP Networks using ITU T.38 Protocol

|                          |                                                                                                              |
|--------------------------|--------------------------------------------------------------------------------------------------------------|
| Platforms Supported:     | IP500 only, must be fitted with VCM32 or VCM64 module.                                                       |
| Trunk Types Supported:   | SIP.                                                                                                         |
| Extensions Supported:    | SIP ATA for connection over LAN or POTs port.                                                                |
| T.38 Transport Layers:   | UDPTL (with optional redundancy error correction).                                                           |
| T.38 Versions Supported: | 0-3.                                                                                                         |
| Call Types Supported:    | Voice calls which transition to fax relay on detection of fax tones. Calls which are negotiated as fax only. |

Release 5.0 provides T.38 protocol support to give reliable fax transmission over SIP Trunks, as fax tones would not normally be supported over SIP Trunks, and therefore require T.38 protocol. As many IP Office systems are now installed only with SIP Trunks rather than ISDN or analogue trunks, the requirement is to provide reliable T.38 fax support over SIP trunks, provided the SIP ITSP can support T.38 protocol.

To utilize T.38 fax support, the fax machine must be connected to an analogue POT port (Phone port) and the extension port configured as Fax support, or alternatively a SIP ATA (Analogue Terminal Adaptor) which supports T.38 Fax. The SIP ATA will be registered to the IP Office as a SIP Endpoint extension. PC installed SIP SoftPhone Fax applications could also be connected to the IP Office directly as SIP Endpoints without the need for an ATA.

#### Scenario 1 – SIP Trunk to local fax machine

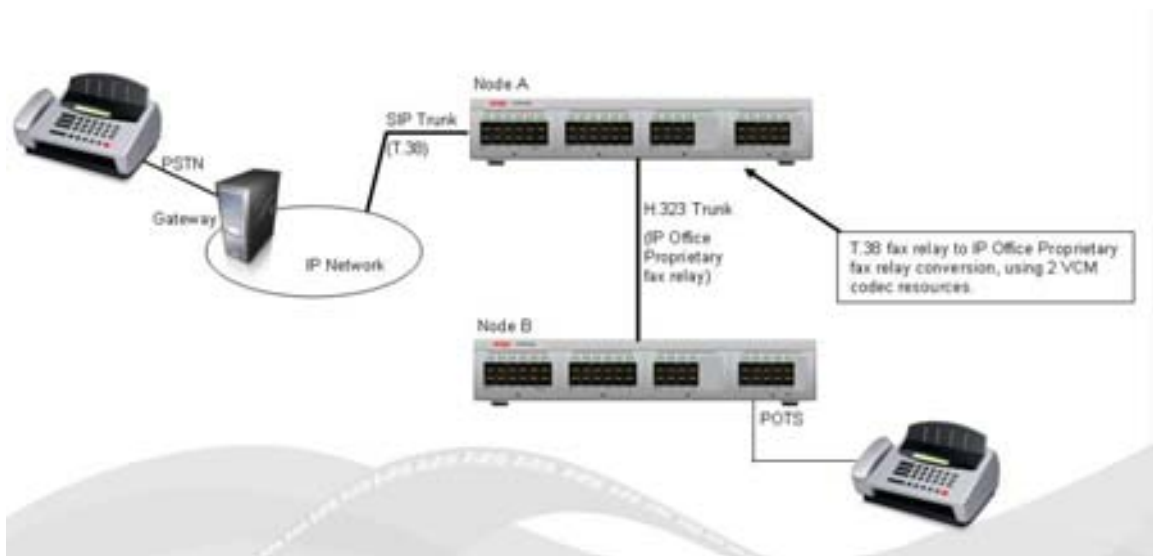


## Scenario 2 – SIP Trunk or Local fax machine to SIP Endpoint Fax Extension (ATA)



## Scenario 3 – SIP Trunk to Networked IP Office with fax machine

Node A has a SIP trunk, the fax machine is connected to Node B. The fax portion of the call is carried as T.38 over the SIP Trunk and as IP Office Proprietary format over the H.323 Trunk (SCN Fax Support), with conversion between the formats in Node A.



IP Office proprietary fax support will still be utilized over SCN H.323 Trunks.

As with any SIP end-point connected to IP Office, a 3<sup>rd</sup> Party IP Phone license key will be required for each ATA or Soft Fax SIP endpoint connected.

Only IP500 VCM modules (VCM32 & VCM64) can support T.38 protocol. Legacy VCM Modules, IP406v2 and IP412 systems will not support T.38.

**Requirements for T.38 Support:**

- IP500 VCM Modules/IP 500 Control Unit Release 5
- IP H.323 Endpoints license key for each endpoint connected
- IP Office POT port, or SIP ATA T.38 compatible to connect the fax machine as a SIP endpoint extension to the IP Office over a LAN

### T.38 Fax Shortcode

In Manager, the “Dial Fax” Shortcode feature can be utilized to route a call to a SIP trunk as fax only, which can reduce the negotiation time rather than starting as a voice call, then requiring a re-invite once fax tones are detected to start the T.38 fax negotiation.

The screenshot shows the 'SIP Extension: 8000 4420' configuration window with the 'T.38 Fax' tab selected. The settings are as follows:

- T.38 Fax Version:** 3
- Transport:** UDP/TLS
- Redundancy:**
  - Low Speed: 0
  - High Speed: 0
- TCF Method:** Trans TCF
- Max Bit Rate (bps):** 14400
- EFlag Start Timer (msecs):** 2600
- EFlag Stop Timer (msecs):** 2300
- Tx Network Timeout (secs):** 150
- Use Default Values:** ☐
- Checkboxes:**
  - ☒ Scan Line Focus
  - ☒ T.38 Enhancement
  - ☒ Disable T.38 ECM
  - ☐ Disable EFlags For First DIS
  - ☐ Disable T.38 MR Compression
  - ☐ NSF Override
- Country Code:** 0
- Vendor Code:** 0

The settings on this tab are only accessible if **Re-invite Supported** and **Fax Transport Support** are selected on the **VoIP** tab. T.38 fax relay is only supported on IP500 systems with an IP500 VCM card. The default settings should be sufficient to support T.38 fax in most cases. However, all settings are configurable. Please refer to the Knowledgebase and Manager help for configuration details.

### 2.31 Telephony Quality of Service Reporting

IP Office Release 5.0 provides Quality of Service Reporting as part of Release 5.0 “IP Telephony improvements”.

Avaya 4600, 5600, 1600 IP telephones can be configured to send RTCP messages to central RTCP monitoring packets when the phone is registered to an IP Office – System / VoIP tab. This is a system configuration enable/disable facility, but the telephone must be re-registered to apply the new setting.

The SSA Application will display the QoS information as Alarms should any QoS information exceed the parameters set in Manager system / System Events tab. See Manager Help for configuration details.

| Round Trip Delay | Good Quality | High Quality |
|------------------|--------------|--------------|
| Round Trip Delay | < 350ms      | < 160ms      |
| Jitter           | < 20ms       | < 20ms       |
| Packet Loss      | < 3%         | < 1%         |

For 4600, 5600 and 1600 Series H323 telephones, the IP Office can collect VoIP QoS (Quality of Service) data from the telephones. For other telephones, including non-IP telephones, it can collect QoS data for calls if they use a VCM channel. The QoS data collected by the IP Office is displayed by the IP Office System Status Application.

This setting is mergeable. However it only affects H323 telephones when the register with the IP Office. Therefore, any change to this setting requires H323 telephones that have already been registered to be rebooted. Avaya H323 telephones can be remotely rebooted using the System Status Application.

The QoS data collected includes: RTP IP Address, Codec, Connection Type, Round Trip Delay, Receive Jitter, Receive Packet Loss.

This setting is not the same as the RTCPMON option within Avaya H323 phone settings. The IP Office does not support the RTCPMON option.

### 2.32 IP Telephony Improvements – Ease of Installation

IP Office Release 5.0 provides the ability for the IP Office platform to create default IP phone files, and provide them via HTTP & TFTP when an IP Phone initializes and registers. These default IP telephony files (see below) will not be found on the memory card, they are sent directly from the IP Office in a HTTP format to the requesting IP Telephone.

- Placing a standard 46xxsettings file on the memory card will take priority over an auto generated file.
- Supported Telephones: 4600, 5600 and 1600 series telephones.
- Hardware: When Compact Flash Memory Card used, IP500 & IP406V2 only – IP412 cannot support a Compact Flash Memory card.

IP Office Manager, System Tab has been updated with 3 new configuration items:

- **Phone File Server Type**
  - o Determines what is specified in the DHCP response to Avaya IP Telephones.
    - Custom – HTTP/TFTP Server IP Address.
    - Memory Card – Compact Flash.
    - Manager – HTTP/TFTP Relay to Manager using IP Office IP Address and Manager PC IP Address.
- **Manager PC IP Address**
  - o Used for when “Phone File Server Type” is set to “Manager”. The destination of the relay.
- **Avaya HTTP Clients Only**

- o Limits access to HTTP services to identifiable Avaya clients.
- o Three existing configuration items
  - TFTP Server IP Address.
  - HTTP Server IP Address.
  - File Writer IP Address
- o Controls write access to the Compact Flash card (CF).

The following default files will be supplied by the IP Office to a requesting IP Telephone when IP Office is configured as the HTTP server and a physical file is not present on the embedded compact flash card, please note this file cannot be found on the memory card, it is transmitted to the IP Telephone as over HTTP on request:

- 46xxupgrade.scr (HTTP & TFTP)
- The auto-created version of 46xxupgrade.scr will contain the valid list of boot and application firmware versions for the 46xx/56xx series telephones.
- 16xxupgrade.txt (HTTP & TFTP)
- The auto-created version of 16xxupgrade.txt will contain the valid list of boot and application firmware versions for the 16xx series telephones.
- 46xxsettings.txt (HTTP & TFTP)
- The auto-generated version of 46xxsettings.txt will contain file contents as supplied on the Admin CD. Exceptions described will be :
  - RTCPMON: Text string containing the 4-octet IP Address of the IP Office LAN X\* address: LAN 1 address.
  - Language settings if language files relevant to the system defined locale are present on the internal storage card.
  - In addition to RTCPMON and Language settings, the Backup and Restore location (BR URI) will also be an exception to what is provided in the Admin CD.
- 1600 Series Telephone Language Files (HTTP)
- 1600 Series Telephone Backup & Restore Files (HTTP)

The enhancements will require that IP Office is the DHCP server servicing the IP Telephones and the HTTP server providing the firmware upgrade files (binaries, setting files and upgrade files). This implies that IP Office is equipped with a compact

flash card and does HTTP/TFTP relay enabled to provide the files using the embedded servers.

In the settings.txt file up to 4 language files can be specified. These language files will be then requested by the phone and be provided by IP Office if they exist on the CF card. When IP Office is auto-generating the settings.txt, it will look in the IP Office configuration file and identify which locales are used the most (in User Locale and System Locale). The 4 most popular locals will be set in the settings files. This excludes English because this is default and built into the Phone firmware.

The 46xxupgrade.src file will be different from the standard file for the Russian locale because a different binary is required for supporting Russian characters.

Until IP Office 4.2 the IP phone boot sequence required that Upgrade and Settings files had to be on the compact flash card together with the software binary files. In IP Office release 5, IP Office can auto-generate the Upgrade and Settings files based on information that it can get from the IP Office Core binary file (e.g. IP500.bin) and the configuration file.

- This means that Upgrade and Settings files need not be on the Compact Flash Card for the IP Telephones to upgrade or just get their settings. Only the binary files will need to be copied on the Compact Flash using the Embedded File Manager.
- In cases where the IP Office Administrator has manually configured Upgrade and Settings files and copied them on the Compact Flash card these will take precedence over the auto-generated files. In this case IP Office will follow the same pre-5.0 procedure described above.
- 4600, 5600 and 1600 telephones only. Avaya T3IP Telephones will not be serviced by this feature as they require FTP and a different method to upload binaries.

**Embedded File Management** - Release 5 Manager allows the user to easily upload IP Telephone Firmware and Embedded Voicemail Files – go to File / Advanced / Embedded File Management – select the system to connect (Using Administrator username and Password). Then click File to display a drop down menu to:

Upload File  
Upload Phone Files  
Upload Voicemail Files

If the Embedded Memory Card already has the most recent files, the Manager will pop a message telling you that the Upload is not required

### 2.33 Enhanced Conference Capability – IP500 only

The IP500 conferencing capacity will be increased from 64 channels to 128 channels. The limit of a maximum of 64 parties in a single conference will remain, but otherwise all permutations up to a total of 128 parties in conferences are permitted. For example, 2 conferences with 64 participants, 3 conferences with 41 participants or 4 conferences with 32 participants etc.

**Note:** The IP500 4 port expansion card is not required to support the enhanced conference capability

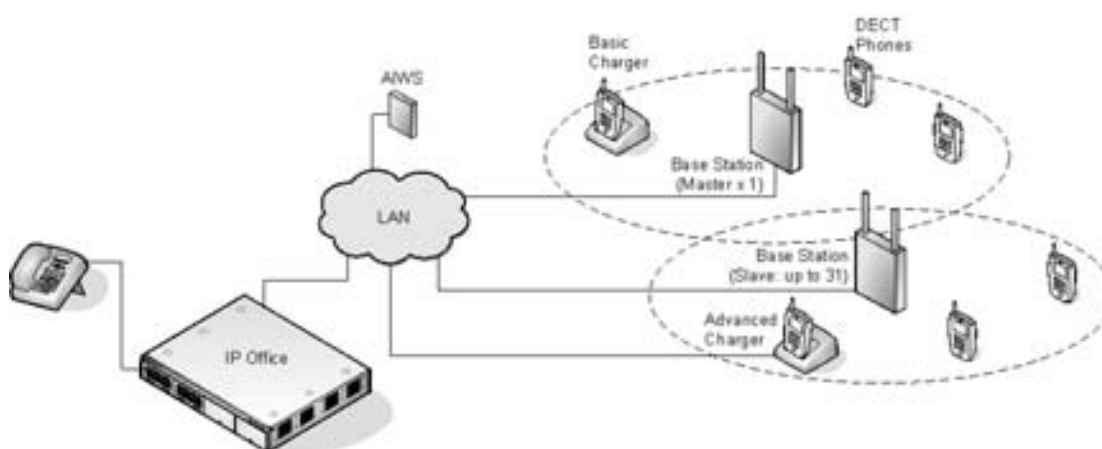
### 3 New 5.0 Hardware

#### 3.1 IP Office DECT R4 – New Avaya IP Dect solution

Avaya DECT R4 is a DECT system where multiple base stations are connected using an IP LAN. For IP Office, DECT R4 is supported with IP Office Release 5.0+.

Support for the existing Avaya IP DECT system will be retained in Release 5. In addition, the existing 3701 and 3711 IP Dect handsets will be supported with the new DECT R4 system although with reduced functionality.

The major components of DECT R4 are similar to the existing IP DECT system, with the addition of an AIWS – Avaya In-Building Wireless Server. DECT R4 is supported by IP500, IP412 and IP406V2 with Release 5 core software subject to local approvals.



#### IP DECT Base Station (IPBS)

Up to 32 are supported. During installation one is configured as the master base station, to which the other base stations synchronize as slave base stations. Each base station can host up to 8 simultaneous phone conversations in its coverage area.

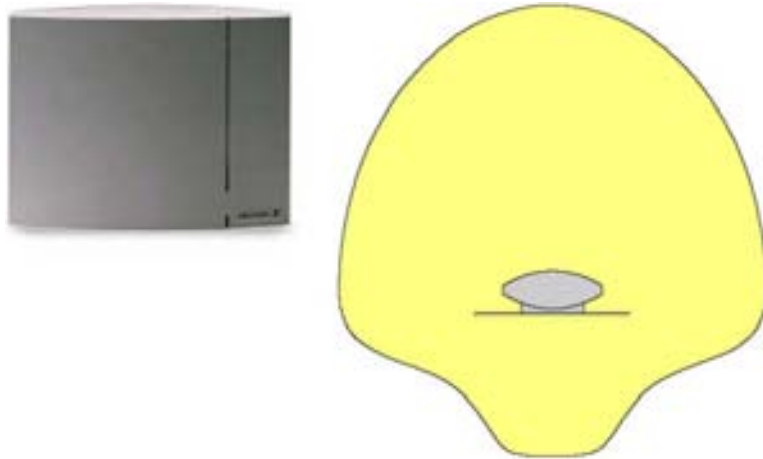
The DECT R4 product supports two base station variants; the BS330 and BS340. They are identical except in aerial connection and therefore radio coverage. Each can support up to 8 simultaneous calls. During installation one of the base stations is configured as the master base station for the DECT R4 system.

Each base station includes a detachable bracket for use in wall mounting of the base station. Each base station requires a LAN access point and is supplied with a 1.2 meter (4 foot) LAN cable.

Each base station can be powered using IEEE 802.3af power over ethernet (PoE 7W Class 2). Alternatively the base station also requires a main power supply outlet socket within 8 meters (26 feet) cable distance and power supply unit.

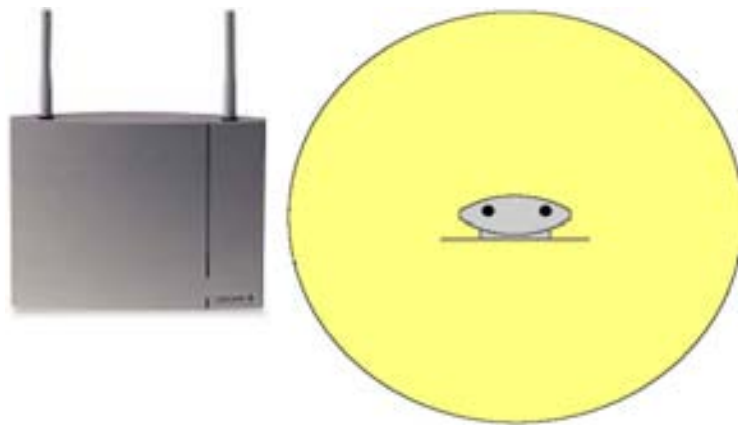
#### BS330

The BS330 has 2 integral internal aerials which cannot be adjusted. The aerials produce a slightly directional pattern of radio coverage.



#### **IP DECT R4 Base Station BS340**

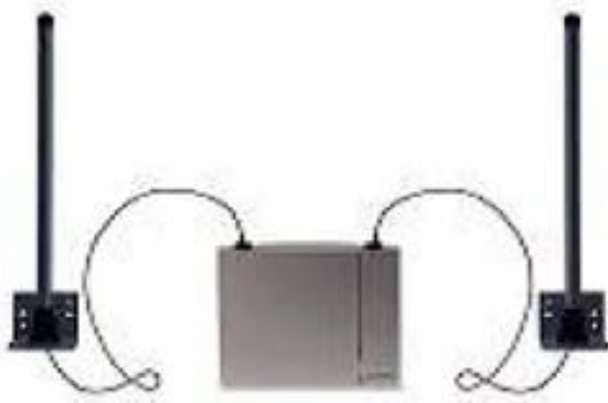
The BS340 has 2 external aerials. These aerials produce an even pattern of radio coverage. The aerials can be disconnected and replaced by a various other types of [aerials](#) if different radio coverage patterns and range is required. This type of base station is not supported in North America.



#### **Omni-Directional Single Aerial**

A pair of these aerials can be used to approximately double the base station radio coverage, i.e. up to 600 meters (2000 feet) omni-directional coverage.





**Directional Dual Aerial**

This aerial gives directional coverage up to 750 meters (2500 feet). Only one aerial unit is required for connection to the base station.

**Directional Single Antenna**

A pair of these aerials can be used to give directional coverage up to 1000 meters (3300 feet). They must be mounted facing the same direction and approximately 1 meter (3 feet) apart. To achieve maximum coverage, the aerial should be mounted between 4 to 8 meters (13 to 26 feet) above area being covered.





## Telephones

Up to 120 DECT telephones are supported.

Other DECT telephones are supported using the DECT GAP and DECT CAP standards.



**3720**

### High quality voice DECT phone, GAP/CAP

- compliant
- Easy access to PBX services
- Voice Mail
- Manual and automatic keypad lock
- Local and central phone book
- Call list with the 25 last calls
- Vibrator
- Loudspeaker/hands free
- Central Management and software download
- Headset socket
- 5 languages



**3725**

As per 3720 plus:

SMS

- Message acknowledgement
- Message length up to 160 characters
- Storage capacity: 30 received/sent messages
- Color display
- Site Survey tool
- Cleanable, IP 44
- Option: Bluetooth
- 19 languages

## **Chargers**

A number of different chargers exist for the 3720/3725 telephones.

### **Basic Charger**

This is a simple single-phone charger for charging only.



### **Advanced Charger**

This single-phone charger has USB and LAN sockets. These allow the phone docked with the charger to be accessed using the Device Manager application (browser access via the AIWS unit and charger LAN port or WinPDM application via the USB port).



**Rack Charger**

This is a 6 phone advanced charger.



**3725 Battery Charger**

Allows charging of up to 6 batteries separate from the 3725 telephones



### **Avaya In-Building Wireless Server (AIWS)**

This unit provides directory integration between the IP Office and the DECT R4 system. It also includes an integrated application for managing the telephones and chargers. It also runs integrated applications that can be used to manage the settings on DECT telephones and upload software to those telephones.



The unit is managed via web browser and requires a fixed IP address.

Wall mountable.

Dimensions: 275 x 130 x 60 mm, 550g.

Supplied with power supply unit and power cords.

#### **Configuration Tools**

The tools and applications for DECT R4 are included as part of the IP Office Release 5 Administration CD.

### **3.2 DECT R4 Capacities**

The Unified Dect solution will support, on one IP Office system, the following maximum capacities

- 1 x Master Base Station (IPBS)
- 31 x Slave Base Stations (IPBS)
- 120 Unified IP DECT Users
- 1 AIWS (Messaging & Administration Server)

- 8 concurrent calls to each base station
- Concurrent call limit: 120 or IP Office IP call limit dependant on VCM capacity for TDM connection.
- IP Office configuration will utilize current Manager DECT Trunk forms

### 3.3 DECT R4 Configuration

In Release 5.0 only the AIWS will be required for IP Office System Directory Integration. The AIWS will support the following features:

- IP Office directory access using TFTP
- Telephone management, software downloads via air. and menu programming
- Basic Messaging to DECT R4 handsets

The WIN-PDM tools can be used with a standard Windows based PC to provide management of telephones using an intelligent charging cradle connected to the USB port of a PC.

The Win-PDM tool will allow – if no AIWS is available - the following features:

- Management features including telephone software upgrade on the phone
- Reprogramming of telephone feature menu including feature name and feature access codes.

Please refer to the KnowledgeBase and the DECT R4 Installation Manual for full configuration and installation details.

### 3.4 DECT R4 Approvals

The IP Dect R4 solution will be available to sell in all current markets where the IP Office IP Dect is sold, with the following exceptions:

- IP412 – South Africa, New Zealand, Australia. Will not support DECT4 on IP412.
- IP406V2 – South Africa, New Zealand, Australia, North America. Will not support DECTR4 on 406V2

### 3.5 DECT R4 Handset Languages Supported

The following Languages are supported on the 3720 and 3725 telephones:

| 3720    | 3725    |
|---------|---------|
| English | Danish  |
| German  | Dutch   |
| Spanish | English |
| French  | Finnish |
| Russian | French  |

|         |            |
|---------|------------|
| Italian | German     |
|         | Italian    |
|         | Norwegian  |
|         | Portuguese |
|         | Spanish    |
|         | Swedish    |
|         | Polish     |
|         | Greek      |
|         | Czech      |
|         | Hungarian  |
|         | Brazilian  |
|         | Slovakian  |
|         | Turkish    |
|         | Russian    |

### 3.6 1603SW IP Telephone

The 1600 series telephones supported with IP Office Release 4.2 will have one additional version added in Release 5.0, the 1603SW. This will support the same interface as the 1603 on IP Office but has a built-in Ethernet switch. IP Office 5.0 will recognize and admit this new phone type.



Note: The 1603SW requires a 1603 PoE splitter (700415607) if connected to a network switch providing Power over Ethernet (802.3af).

### 3.7 4-Port Expansion Card – IP500 Only

Release 5 will support new IP500 hardware – The 4-Port Expansion Card - that allows 4 additional expansion modules to be added to the IP500 system, enabling a maximum capacity of 12 x Expansion Modules. All current supported expansion modules (as with IP Office 4.2) may be added to this expansion card. As a result, maximum capacity on IP500 will be increased to 384 Extensions (360 on expansion units and 24 on the IP500 base unit).

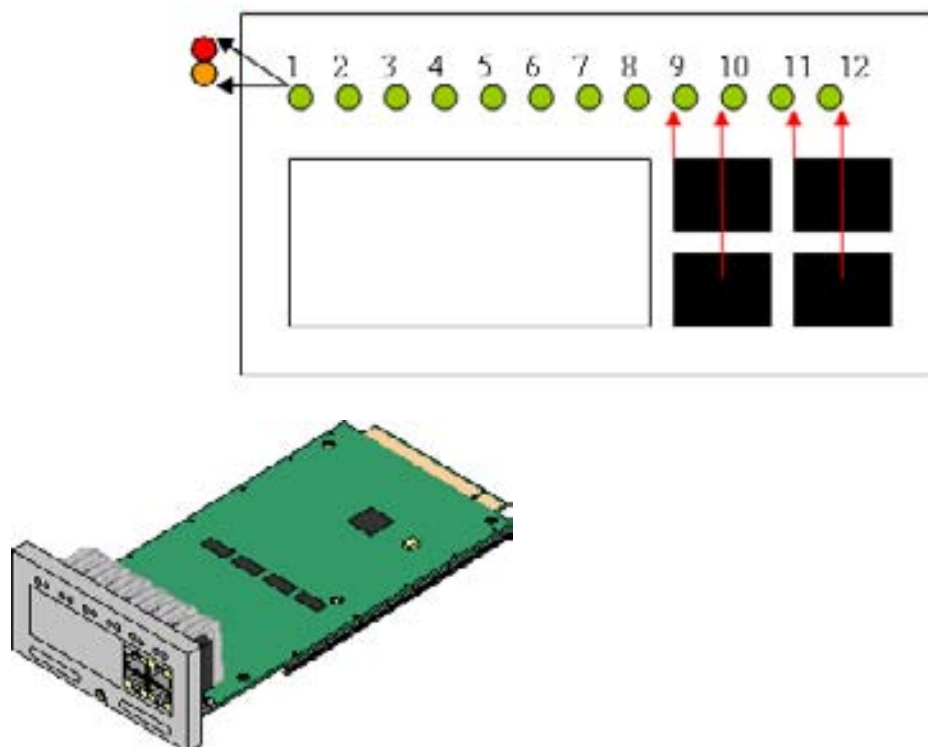
**Note :**

- *IP500 only – Release 5 software*
- *Yellow Connection Cables – 4 cables are supplied with the 4-Port Card*
- *This card does not accept IP500 daughter cards*
- *1 per IP500 Control Unit*
- *Installs in Slot 4 of the Control Unit only*

**The 4-Port Expansion Module will only be supported in slot 4 of the IP500 system unit.** There are 4 x Yellow 2 meter connection cables supplied with the 4-Port Card and are specifically for use with the 4-Port Expansion Card, these cables are not supported for connection to the Expansion ports at the rear of the IP500 unit. Connection of the standard Blue 1 meter cables is supported onto the 4-Port Expansion Card.

The 4 Port Expansion Card and the connected Expansion Modules can be configured in the offline configuration facility in Manager to allow pre-configuration prior to a new system installation.

The LED displays are be labeled 1-12, LED's 1-8 indicate if Expansion units are connected to TDM ports 1-8 on the back of the IP500, and LED's 9-12 indicate if expansion units are connected on the ports on the actual card.



**4-Port Expansion Card – the following Expansion Modules will be supported:**

**Supported Expansion Modules: The following external expansion modules are supported:**

IP500 Analogue Trunk Module  
IP500 BRI So Module  
IP500 Digital Station Module  
IP500 Phone Module  
IP400 Digital Station Module V2 (DS16/DS30 V2)  
IP400 Phone Module V2 (Phone8V2/Phone16 V2/Phone30 V2)

## **4 New 5.0 Applications**

### **4.1 Customer Call Reporter 1.1 (CCR)**

Customer Call Reporter 1.0 was released originally supported by IP Office Core Software 4.2. All product changes and bug fixes in the future will be based on CCR 1.1 which will be supported by IP Office Core software 5.0. CCR 1.0 is not supported with IP Office 5.0 software.

CCR and CCC cannot connect to the same IP Office.

#### **Additional Information to be added to CCR v1.1 release that is not included in CCR v1.0 Technical Bulletin:**

1. Trunk to Trunk transfers are not supported. For example, a call that arrives on an external line that is transferred to another external line will not be reported upon.
2. Installation of the CCR database on a remote server will require the full installation on the remote server of CCR along with the pre-requisites. This will be fixed in a future release.
3. German localization is now included in CCR.
4. SIP endpoints are not supported as Agents by CCR.

### **4.2 Compact Call Centre (CCC)**

Release 5 supports Compact Call Centre (CCC), it is recommended that the most recent versions of CCC are installed. CCC and CCR cannot connect to the same IP Office system.

### **4.3 Voicemail Pro 5.0**

Required Components:

- Voicemail Pro Version 5.0
- New Text to Speech Engine (optional) – TTS 4.x CD (2009)
- Release 5 IP Office Core Software
- For Exchange 2007 features, a UMS license key is required

**IP Office Voicemail Pro will support remote SCN IP Office systems of version 4.2 or below provided the voicemail server is connected to the central IP Office system running 5.0 software.**

**The Voicemail Pro 5.0 enhancements include:**

- The ability to run on a 64 bit Vista Operating System

- Support for a 32 Node SCN
- Support up to 40 Voice ports on IP500.
- Seamless support for the IP Office Primary\Fallback resilience capability introduced in this release
- The ability to independently configure the Minimum Message Length for IP Office and Intuity Modes.
- The ability to Import and export conditions.
- UMS Enhancements that in turn include
  - o Web Voicemail refinements
  - o Exchange 2007 Integration
- Enhancements to the following Actions:
  - o Alarm Set
  - o Clock
  - o Transfer
  - o Assisted Transfer
  - o Whisper
  - o Generic

#### **4.4 32 Node SCN Support**

IP Office Release 5 can support a 32 node Small Community Network (SCN) of IP Office systems.

#### **4.5 VoiceMail Pro Exchange 2007 Support**

##### **Voicemail Pro 5.0 Exchange Integration - Unified Messaging System (UMS)**

Licensed UMS users connected into Exchange 2007, utilizing an Outlook 2007 email client, will have their voicemail messages presented using the Microsoft media controls, without the need to install any client side components. For UMS licensed users, using the Voicemail to email forward capability, where Exchange 2007 is the email store, the emails delivered into exchange will be accessible via the TUI and visual voice.

**Note:** Voicemail messages forwarded onto an email store will not be accessible via the Web Services or IMAP interfaces.

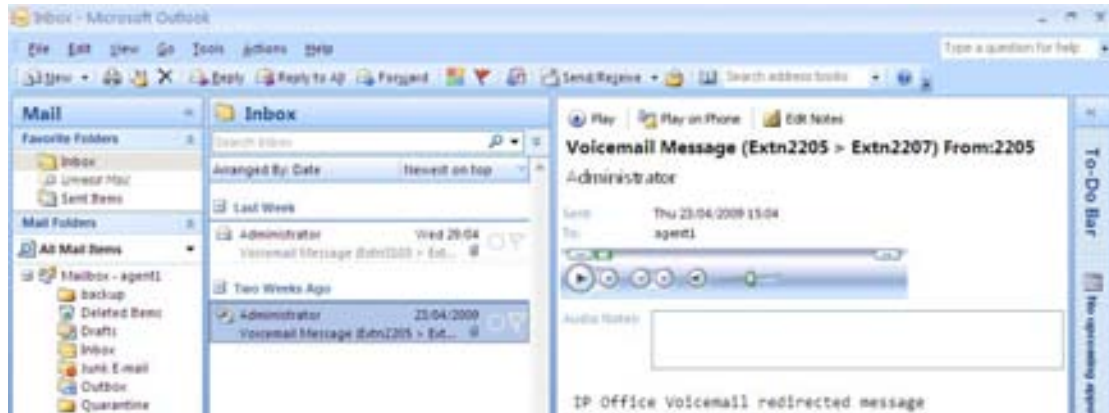
Voicemail Delivery and Retrieval - Exchange 2007 support will allow voicemails to be delivered into Exchange 2007 such that Outlook 2007 clients can present the voicemails within the Outlooks integrated voicemail media player as Voicemail messages. A UMS License key will be required to support this feature.

The Voicemail Pro will also provide details of the number of 'New' and 'Read' voicemail messages in Exchange 2007, and support the ability to present the messages from Exchange 2007 via the handset. The incorporation of this feature will allow the use of Exchange 2007 as the mail store for voicemails, and by this virtue facilitate Blackberry integration. If voice messages are formatted as voicemails they can be handled via the visual voice user interface of Blackberry devices if the Blackberry is synchronized with the Exchange Server.

##### **Exchange 2007 configuration example**

Configuring Exchange 2007 for Message Store access and playback by email client this is an example, Avaya cannot be held responsible for Exchange configuration

variations, account access rights or service packs and software versions – please refer to the Knowledge Base and the IP Office 5.0 VoiceMail Pro Installation Manual for full details.



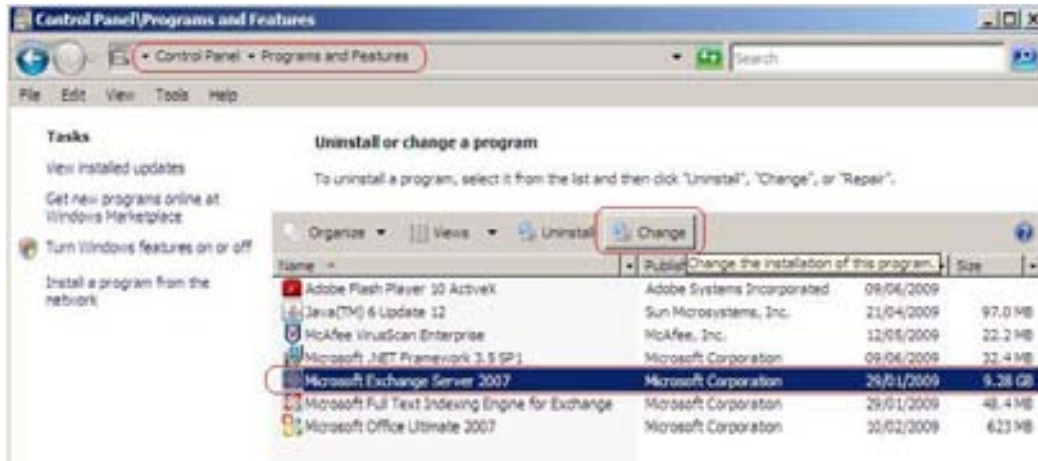
- MS Exchange 2007 support
- Voicemail message delivery to Exchange 2007 for message access and playback by email client
- Voicemail message retrieval and playback from Exchange 2007 via the TUI
- MWI synchronization
- Outlook 2007 – TUI to playback messages

### Example Exchange Server 2007 SP1 Setup

Supported by Voicemail Pro 5.0 only. Valid IP Office UMS and VoiceMail Pro licenses must be installed to support Exchange 2007 Integration.

#### MS Exchange 2007 Configuration - Creating a New MS Exchange 2007 Role:

- Select "Start / Control Panel / Program and Features.
- Highlight Microsoft Exchange Server 2007
- Select "Change" to add the new Exchange Role.



### Exchange Maintenance Mode

- The wizard will guide you through adding a Exchange Server Role.
- Select Next



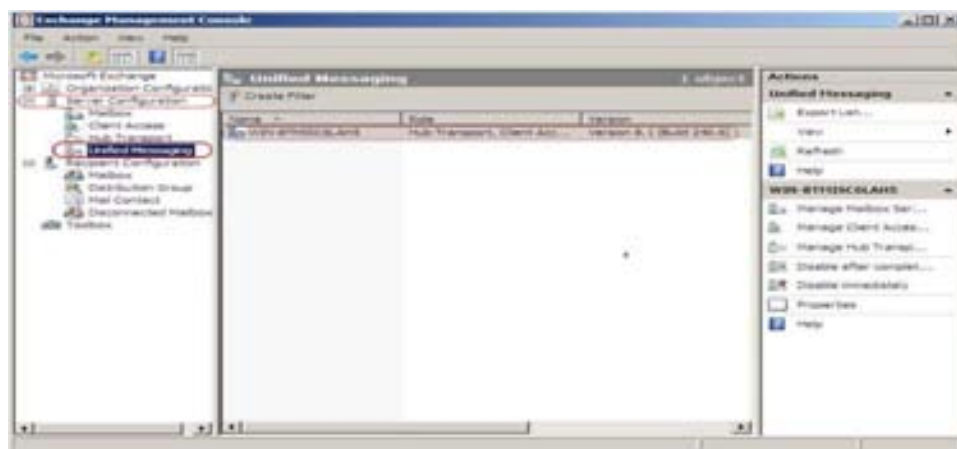
### Server Role Selection:

- Enable (tick) Unified Messaging Server Role.
- Select Next
- Select Finish to complete the Unified Messaging Server Role



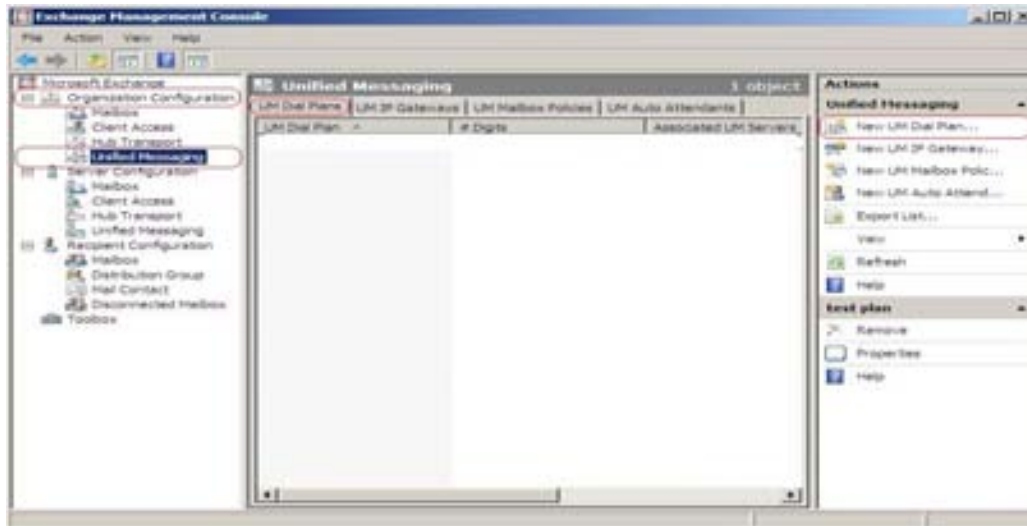
### MS Exchange 2007 Management Console Configuration - Unified Messaging Configuration

- Select Start / Programs / Microsoft Exchange Server 2007/ Exchange Management Console.
- From the Microsoft Exchange Menu select Server Configuration / Unified Messaging
- A new Exchange Unified Messaging Role has been added.



### Creating a New UM Dial Plan

- Highlight Unified Messaging and Select New Filter
- Select New UM Dial Plan



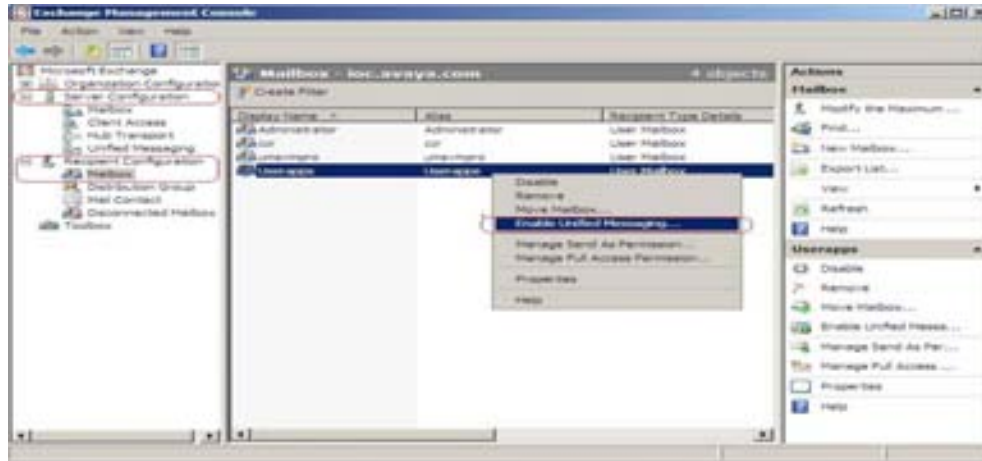
### Creating a New UM Dial Plan

- Follow the New UM Dial Plan wizard.
- Below is an example of a Dial Plan configuration
- Click “New” and then “Finish” to complete the Dial Plan



### Configuring Mailbox Users for Unified Messaging

- From the Server Configuration Menu select Recipient Configuration / Mailbox
- Select a Mailbox User, right click and select Enable Unified Messaging



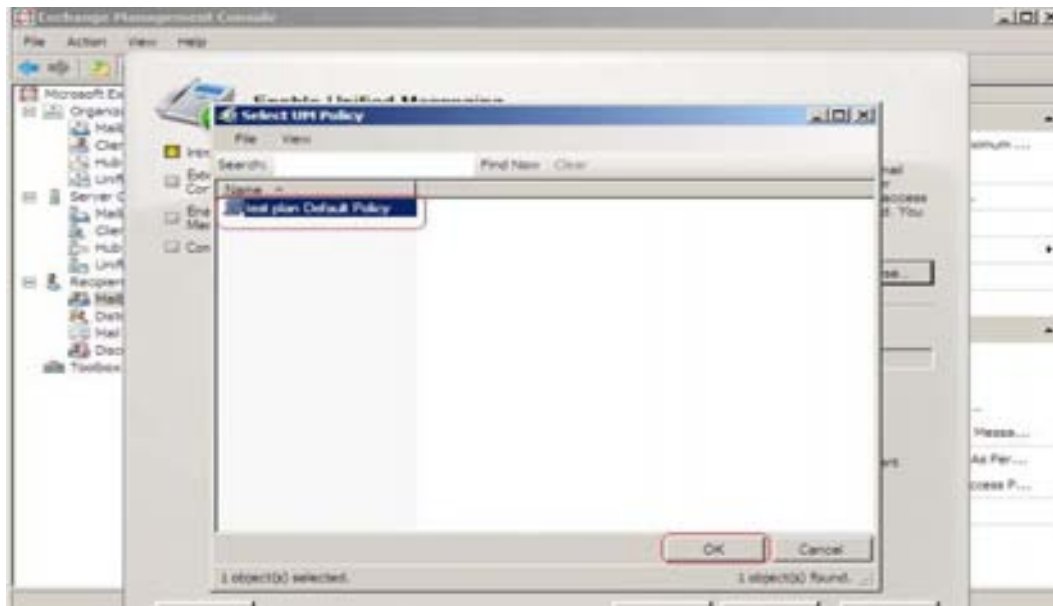
### Enabling Unified Messaging

- Select Pin Settings Automatically generate PIN to access Outlook Voice Access.
- Click the Browse button to select the UM Policy



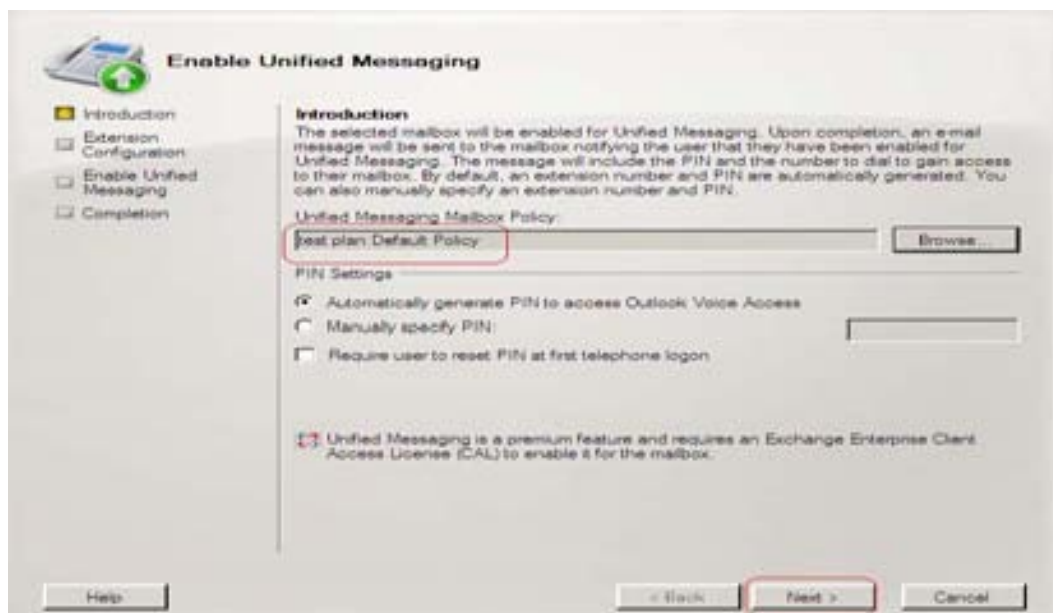
### Select the UM Policy

- Select the UM Policy previously created and click



### Unified Messaging Policy

- Check before selecting Next:
- The unified Messaging Mailbox Policy field is set.
- Pin Settings automatically generate PIN to access Outlook Voice Access is selected.



### Extension Configuration

- Select "Manually entered mailbox extension".
- Enter a 5 digit Number - The number of digits need to match the extension plan previously created.(this number is only relevant to MS Exchange and not IP Office)

- Select Next

**Enable Unified Messaging**

Introduction  
Extension Configuration  
Enable Unified Messaging  
Completion

**Extension Configuration**

☐ Automatically generated mailbox extension  
☒ Manually entered mailbox extension:

SIP Resource Identifier  
 For a SIP URI dial plan, this is the SIP address of the user (example: tony.smith@contoso.com). For an E.164 dial plan, this is the E.164 address of the user (example: +14255550150).  
☐ Automatically generated SIP resource identifier:  
☒ Manually entered SIP or E.164 address:

Help < Back Next > Cancel

**New UM Dial Plan**

New UM Dial Plan  
Completion

**New UM Dial Plan**  
 This wizard helps you create a UM dial plan for use by Microsoft Exchange Unified Messaging. A dial plan is a grouping of unique telephone extension numbers.

Name:

Number of digits in extension numbers:

URI type:

VoIP security:

### Mailbox Configuration Summary

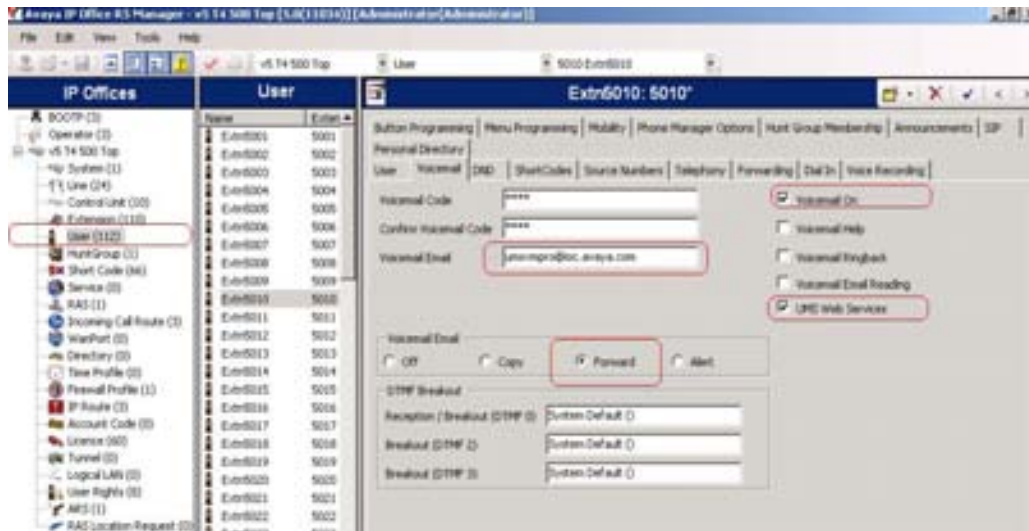
- Check the Summary configuration and select Enable to complete the Unified Messaging setup.
- Select Finish when the Completion summary: 1 succeeded



## Manager User Configuration

### User Voicemail Configuration settings

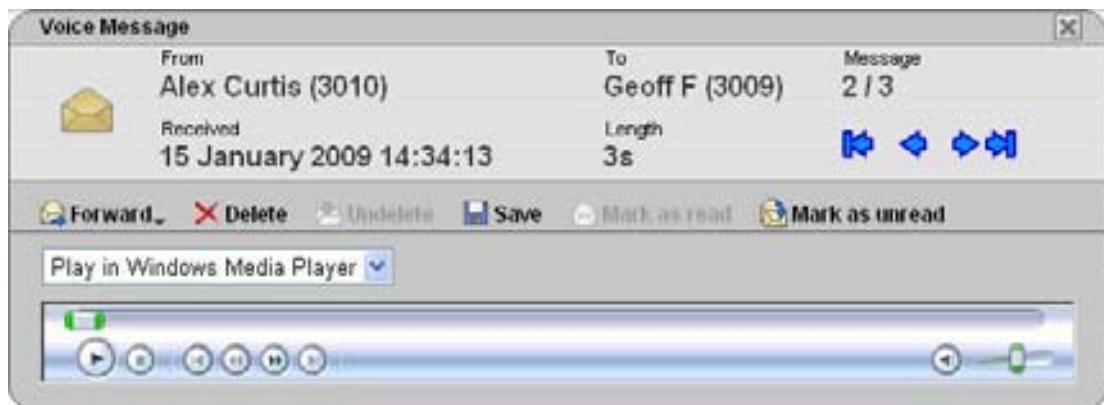
- Voicemail On
- UMS Web Services
- Voicemail Email: Forward
- Voicemail Code
- User email address



## 4.6 UMS Enhancements

### Web Services

- When the UMS Message Web Interface is invoked from the Voicemail Web Services page, the Message Interface provides the option to move to Next\Previous\First & Last message.
- The UMS Web Interface provides:-
  - o When the Message Specific Web Interface is invoked from the Voicemail Web Services page, the Message Interface provides the option to move to Next\Previous\First & Last message.
  - o Web and IMAP Access to Hunt Group Mailboxes



## 4.7 Importing/Exporting Conditions

The ability export and import Conditions has been repeatedly asked for from the field. This capability will allow complex conditions to be configured on a test system and exported into modules that can then subsequently sent out to various sites where the conditions can be simply imported into Callflows for use, eliminating the need for skilled personnel having to travel to each site to configure systems.

#### 4.8 Support Latest TTS

The latest Avaya TTS engine is supplied as a 2 x DVD set.

- Supports improved rendering of text into speech
- Supports the following languages :

| Languages              |
|------------------------|
| Chinese                |
| Danish                 |
| Dutch                  |
| English (UK)           |
| English (US)           |
| Finnish                |
| French                 |
| French (Canadian)      |
| German                 |
| Greek                  |
| Italian                |
| Japanese               |
| Korean                 |
| Norwegian              |
| Polish                 |
| Portuguese             |
| Portuguese (Brazilian) |
| Russian                |
| Spanish                |
| Swedish                |

#### 4.9 Whisper Action Enhancement

The Whisper action is being enhanced to allow the administrator to select an option allowing the call to be placed straight through to the target agent, having played the callers recording. If the 'Auto Accept' option is checked, the Agent will not have to press a DTMF digit to accept an incoming call. If the option is not checked, the Caller will be expected to press DTMF 1, as at present, in order to accept the incoming call.

The action modifications have been included to accommodate call centre environments. Allowing the Whisper action to function without the need for the caller to make a recording, allows a call to be presented to a target (User or Hunt Group) where the greeting played can be based upon the incoming call route only. The auto Accept addition has been included to allow calls, once answered by an agent to be played a prompt detailing the call, before automatically connecting the two parties

#### 4.10 Alarm Set

This function will allow systems in hotels to have the ability for the operator or receptionist to be able to set up alarm calls for extensions other than their own. The Alarm Set action can be modified to accommodate this requirement.

In addition to the changes to the Alarm Set action, the VmPro Client will display the status of Alarms against extensions, including the Time at which the alarms will activate. The VmPro Client should further be able to set/clear the Alarm settings.

#### 4.11 Clock Action

This function allow the clock function to play out the current time and move onto the next callflow action, rather than to continue playing the time until the caller hits a DTMF. In order to facilitate this, the specific tab of the Clock Action will be exposed, and the administrator constructing the callflow will be able to select the mode of operation that the Clock Action will exhibit.

#### 4.12 Set Caller Priority and Transfer

This function to allow a caller priority to be set by the VmPro Auto Attendant before transferring a call to a target number. In order to achieve this, the VmPro Transfer and Assisted Transfer actions will be modified to accommodate a Set Priority setting.

The Set Priority setting will be enabled by selecting a check box, and the Value in the associated Priority box, if valid will be used. The VmPro will support the ability to utilize system variables containing valid priority values to be used to set the priority of a caller, before transferring the caller.

#### 4.13 Set Minimum Message Length

There have been a number of request to be able to modify the Minimum message length in both Intuity and IP Office operation modes. In some instances, mainly a language issues, the minimum message length of 3 seconds is too long, whilst in others the 0 Seconds for the IP Office mode is too short, and Mailbox subscribers are being left short 'blank' messages. This will be configurable in the Preferences/General Tab.

#### 4.14 Generic Action Enhancements

Supplement the free format capability offered by the generic action with a template that will allow a selection of capabilities to be made available to the system administrator. The capabilities provided via this interface will be:

##### Arithmetic Evaluation

- Change Callers Priority
  - o High
  - o Medium
  - o Low

- Counter
  - o Clear
  - o Decrement
  - o Increment
  - o Set
- String Manipulation
  - o From Position
  - o From the Left
  - o From the Right
  - o Lowercase
  - o Reverse
  - o Uppercase
- Change User or Group Configuration
  - o Absent Message
  - o Absent State
  - o Absent Text
  - o Announcements
  - o Do Not Disturb State
  - o Ex-Directory
  - o Forward Unconditional
  - o Forward Number
  - o Forward On Busy
  - o Forward On No Answer
  - o Forward Hunt Group Calls
  - o Forward On Busy Number
  - o Mobile Twinning Number
  - o Twinning Type
  - o Voicemail State
  - o Voicemail Reception Number
  - o Voicemail Email mode

#### 4.15 VMPro Network Resilience

The IP Office/VMPro implementation will introduce the ability to have two IP Office systems, one providing a backup capability to the other services by a single VMPro server.

The VMPro will seamlessly support the Primary\Fallback IP Office resilience capability introduced in Release 5. When a Fallback IP Office detects the failure of the Primary IP Office, the Fallback IP Office will assume the Primary role. The VMPro will allow the Fallback IP Office to connect, and provide access to the User and System information that was configured for the Primary IP Office.

The “Fallback” IP Office must have licenses to support Voicemail Pro.

**Note:** It is a mandatory requirement to change the default IP address (192.168.42.1) of any IP Office operating in this mode (Fallback).

#### 4.16 User CD - Phone Manager and SoftConsole

Release 5.0 will not be introducing any user enhancements in this release, but Release 5.0 is compatible with the User CD 4.2.26 components.

**Note: Phone Manager and Soft Console are not supported for use with SIP Endpoints**

#### **4.17 Contact Store 7.8**

Release 5 will add support for ContactStore version 7.8 to give IP Office compatibility with the latest Operating Systems and database platforms.

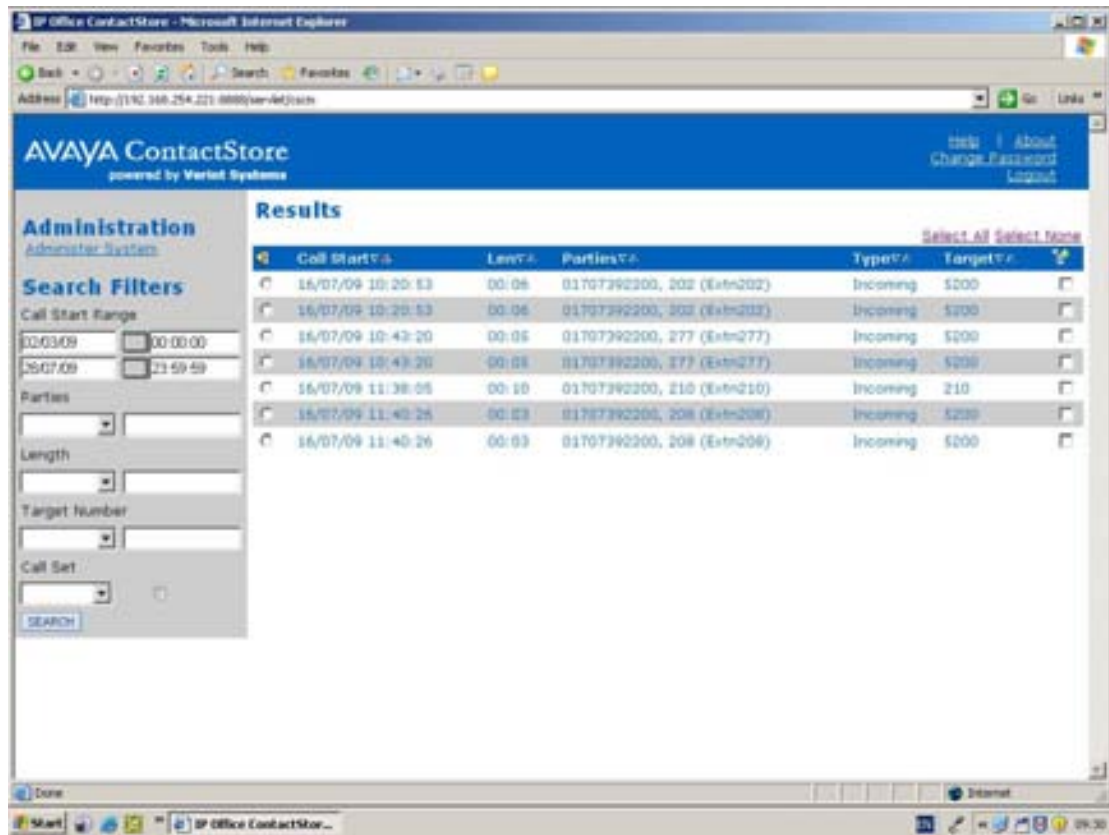
Required Components:

- Voicemail Pro Release 5
- IP Office Core software Release 5
- Relevant Licenses for 5.0 IP Office Core, VMPro and Contact Store Recording Library

#### **4.18 New ContactStore Features**

- ContactStore 7.8 release will support PostgreSQL, an open source database. After upgrade from 7.2.09, to 7.8, old recordings can still be accessed from the MSDE database. The MSDE does not however need to be running.
- Move to Postgres database
  - o Previous MSDE 2000 database was not compatible with newer operating systems.
  - o Upgrade is supported from the 7.2.09 MSDE to the new 7.8 Postgres database.
- New operating system support.
  - Addition of Vista and Server 2008 support (both 32Bit only).
  - Still supports XP Pro and Server 2003.
- The new “Call set” feature allows users to check multiple calls and place them in a named “set” for later retrieval. Recordings can be chosen to be stored in Call Sets. These group recordings allowing more efficient searching in the future.
- The unlicensed trial period has changed from 45 days to 90 days from the first recording.
- ContactStore 7.8 will provide an improved interface for DVD archiving. In version 7.2, archiving to DVD required “Nero” to be installed on the server. Version 7.8 utilizes “Star Burner”, which is installed as part of the Contact Store installer.
- ContactStore Version 7.8 allows a user to export recordings into a playable .wav file format
- Bulk export. It is now possible to select multiple recordings and export the .wav file

- Email recordings. It is now possible to email recordings (individually) directly from the search results without having to save the file to disk first.



Contact Store Administration Search View

Languages supported by this release by this release are as follows:-:

- US English
- UK English
- Dutch
- Italian
- German
- Russian
- French
- Japanese
- Korean
- Latin Spanish
- Brazilian Portuguese
- Simplified Chinese

#### 4.19 ContactStore Installation Notes

Please refer to the Installation and Administration manual for all details relating to 7.8 install, upgrade and usage. This section and sections 5, 6, and 7 are taken from the Install and Admin manual.

##### Pre-Requisites

Before installing ContactStore software make sure that you have completed the following pre-requisites:

1. Installed and verified the IP Office system for general telephony operation.
2. Added the ContactStore license to the IP Office configuration.
3. Installed the Voicemail Pro server application and verified general voicemail mailbox operation.
4. If ContactStore is to be installed on a separate machine from the Voicemail Pro server:
  - a. Check that the Voice Recording Library folder (by default **c:\Program Files\Avaya\IP Office\Voicemail Pro\VM\VRL**) on the Voicemail Pro server is visible as a network share from the ContactStore server.
  - b. Configure your security so that the ContactStore service can read and write to the share for that folder.
  - c. Create and set a registry key on the ContactStore server to tell ContactStore the location of the share. Set the key **HKEY\_LOCAL\_MACHINE\SOFTWARE\Network Alchemy\Voicemail\Directories\VRLDir** to be a string containing the name of the share.

##### Install the ContactStore Software

1. Insert the ContactStore Distribution CD. Installation should auto-start. The **Choose Setup Language** window opens.
  - a. If the installation program does not start automatically, use Windows Explorer to access the CD drive and double-click **setup.exe** to start the program.
2. Select the installation language. The language is used for the installation.
3. Click **OK**. Installation preparation begins. The Welcome to the InstallShield Wizard for ContactStore window opens.
4. Click **Next**. The **Choose Destination Location** window opens.
5. Select the path into which to install the application.
6. Click **Next**. Installation will take a few minutes. When the software has been installed the InstallShield Wizard Complete window opens. The PostgreSQL will be installed automatically.
7. Click **Finish**.
8. To complete the installation reboot the server.
9. Connect the ContactStore server to the IP Office via the Local Area Network port.
10. Verify connection by entering **http://myservername:8888/** in your browser, replacing **myservername** with the IP address or host name of the ContactStore.

## 4.20 Contact Store Upgrade Notes

The previous supported version of ContactStore for IP Office is version 7.2.09. That version uses an MSDE database for the storage of the call data whereas version 7.8 uses a PostgreSQL database.

It is not possible to restore backups of 7.2.09 systems to a newly installed 7.8 system due to the different database formats. However, the installer for version 7.8 supports the direct upgrading of an existing version 7.2.09 system, creating a PostgreSQL copy of the MSDE database during the installation process. **Note:** If your 7.2 installation is not standard (e.g. you have migrated from MSDE to full SQL) then the upgrade may not work, has not been tested, and is not supported.

Therefore the recommended upgrade process is to backup the 7.2.09 system, then upgrade to 7.8.

### If upgrading an existing Contact 7.2 Server to 7.8

1. Backup the partitions containing the MSDE database and the partition being used for call storage. This is purely precaution should it become necessary to revert to version 7.2.
2. Upgrade the system to version 7.2.09 is not already done.
3. Install ContactStore 7.8, allowing it to upgrade the MSDE database to a PostgreSQL database.
4. Set the **Call storage path (System Settings | Server)** to match the current location of the call store.
5. Test that you can search for, find and play existing calls.

### If intending to migrate your ContactStore 7.2 to a new server PC and have 7.8

1. Install ContactStore 7.2 on a new server. (It will install on Vista but if you have User Account Control on, right-click on setup.exe and select "Run as Administrator". You will not be able to replay calls from the Vista machine until you have upgraded to 7.8. This is normal).
2. Back up the old MSDE database and restore it to the new server.
3. Backup the call recordings and restore them to the new server.
4. Check you can replay old recordings on the new ContactStore 7.2 system.
5. Upgrade the new server to ContactStore 7.8.

### Backing Up the 7.8 Database

You can back up your recorder's database using a command line procedure. The procedure uses the PostgreSQL **pg\_dump** command to extract data from the database. It must be executed while the database is running. Do not stop the ContactStore service or the PostgreSQL service before proceeding.

1. Log on as an administrator and open a command window.
2. Change directory ("**cd**") to the **bin** folder in the installation path
3. Create a backup file by entering the command: **winbackup <backupfile>** where **<backupfile>** is the full path name for the backup file. Make sure there is enough space on the target drive for the backup file. Consider copying the backup file to another server, or external media.

### Restoring the 7.8 Database

The following process erases the default database that exists after a complete re-installation and replaces it with the database that you have previously backed up.

1. Re-install the operating system.
2. Log on as administrator and install the recorder.
3. Stop the IP Office ContactStore service.
4. Open a command window
5. Change Directory ("**cd**") to the **bin** directory beneath the install path.

6. Enter the command ***winbackup*** <backupfile> ***restore*** where <backupfile> is the full path name for the backup file.
7. Ignore the warning stating that "*pgpsql already exists*".
8. Start the IP Office ContactStore service.

## 4.21 one-X Portal for IP Office

### one-X Portal Overview

The Avaya one-X Portal for IP Office is an application that provides users control of their telephone from a networked PC. Avaya one-X Portal for IP Office can be used with any IP Office extension; analog, digital or any IP, wired or wireless, and is available as part of the **IP Office Power User or Teleworker User licenses only**. Avaya one-X Portal for IP Office is a server based application that the user accesses via a web browser. Via separate gadgets within the browser window, one-X Portal provides easy access to telephony features, call information, call control, directory and Embedded Voicemail as well as VoiceMail Pro mailbox. The call log shows the actual call history, independent of whether the user was logged in to one-X Portal at the time or not.

- Maximum Logged in Client Sessions is 100 Licensed Users per server. A subsequent release of one-X Portal will remove this restriction.
- Maximum 1 one-X Portal Server connected within an SCN Network
- one-X Portal is not supported with Hot Desking or IP Office resilience mode
- one-X Portal is licensed per User. Configure which IP Office users are allowed to use one-X Portal in each User form.

### Calls Gadget

#### • Caller ID/Name Presentation

Caller ID is presented as standard (where provided) allowing users to see who's calling before answering. The caller's phone number and name (if known to IP Office) are clearly shown in the call status area.

#### • Desktop PC Telephony Controls

Avaya one-X Portal for IP Office has telephony buttons in the calls gadget that activate standard telephone functions such as Answer, Drop, Hold, Retrieve, Record, Consult and Transfer. These functions are context sensitive and appear depending on the status of the call. Keyboard shortcuts are available for Answer, Hold, Drop and Call functions and can be configured by the user.

Active calls can be easily parked by clicking on a park slot while displaying the active call. There are four Call Park slots/zones, which can be shared between users and operators, or within a department on the same IP Office system, further adding to the ease with which the entire call handling process is streamlined with one-X Portal.

### Call Log Gadget

#### • Call History

The call log displays details of calls you have made, received and missed and it will report the last 30 calls. Users can use the call log to make a call or add the caller to the Personal Directory. The call log shows the actual call history, independent of whether the user was logged in to one-X Portal at the time or not. The call log is centralized and also available on the desktop phone. Calls are ordered in 4 tabs:

- All: all calls.
- Incoming
- Outgoing
- Missed

### Messages Gadget

#### Voicemail Access

Avaya one-X Portal for IP Office will show new, saved and old voicemails received and provides access into the user mailbox allowing the user to play, rewind, fast-forward, save and delete messages.

### Directory Gadget

#### Directories

Avaya one-X Portal for IP Office can display several directories of names and associated telephone numbers.

- **Personal Directory**

This is the user's own directory of names and numbers.

- **System Directory**

This is the directory of names and numbers from the IP Office telephone system plus all the users and groups on the telephone system.

- **External Directory**

The system administrator can configure one-X Portal for IP Office to access one external directory (Active Directory / LDAP).

#### User Status/Presence

For the directory entries of other IP Office users, one-X Portal for IP Office will indicate the status of the user at their work number. This status is available for users across an IP Office Small Community Network.

The status can be:

| State          | Available | Busy | Description                                                                                                                                                                      |
|----------------|-----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Normal         |           |      | The normal state for a user showing whether they are using their work extension or not.                                                                                          |
| Do Not Disturb |           |      | The user has set <b>Do Not Disturb</b> . Calls to them will go to voicemail if enabled or else get busy tone unless you are in the user's <b>Do Not Disturb exception list</b> . |
| Logged Out     |           |      | The user has <b>logged out</b> from their phone. Calls to them will most likely go to voicemail if available.                                                                    |
| Other          |           |      | This icon is used when the status is not known.                                                                                                                                  |

Presence within one-X Portal for IP Office allows the user to create sets of call redirection settings. Through the configuration tab the user can create different Presence entries and associate different rules to each such as forwarding to a different number or Do Not Disturb. In case of Do Not Disturb, the user can establish a list of numbers (DND exceptions) from whom the user wants to receive calls.

If you are licensed to use one-X Portal, you need the following to login:

#### Computer

You need a computer with a network connection to the one-X Portal server with an approved browser.

#### Web Browser

You need a web browser that has JavaScript enabled. one-X Portal is supported using the current versions of :

- Internet Explorer IE7
- Mozilla Firefox
- Safari.

If you want sounds, for example ringing, to be used to indicate calls then a media player such as Windows Media Player or Quick Time must be installed.

The Remember me on this computer option shown in the login menu requires the browser to allow cookies.

### **IP Office Extension**

You need to be logged in at an IP Office phone extension. one-X Portal can be used with most telephones supported by the Avaya IP Office telephone system but not with Phone Manager PC Softphone.

### **User Name**

You need your IP Office user name as set by the system administrator. Note that this is not necessarily the same as the name shown on your phone's display.

### **Password**

You need your IP Office user password. Note that this may be different from your telephone login code if you also have one of those.

### **Server Address**

You need the web address of the one-X Portal for IP Office server.

### **Logging In**

Using your web browser, browse to the address you have been given for the one-X Portal. Example <http://192.168.42.228:8080/inyama/inyama.html>

The login menu is displayed.



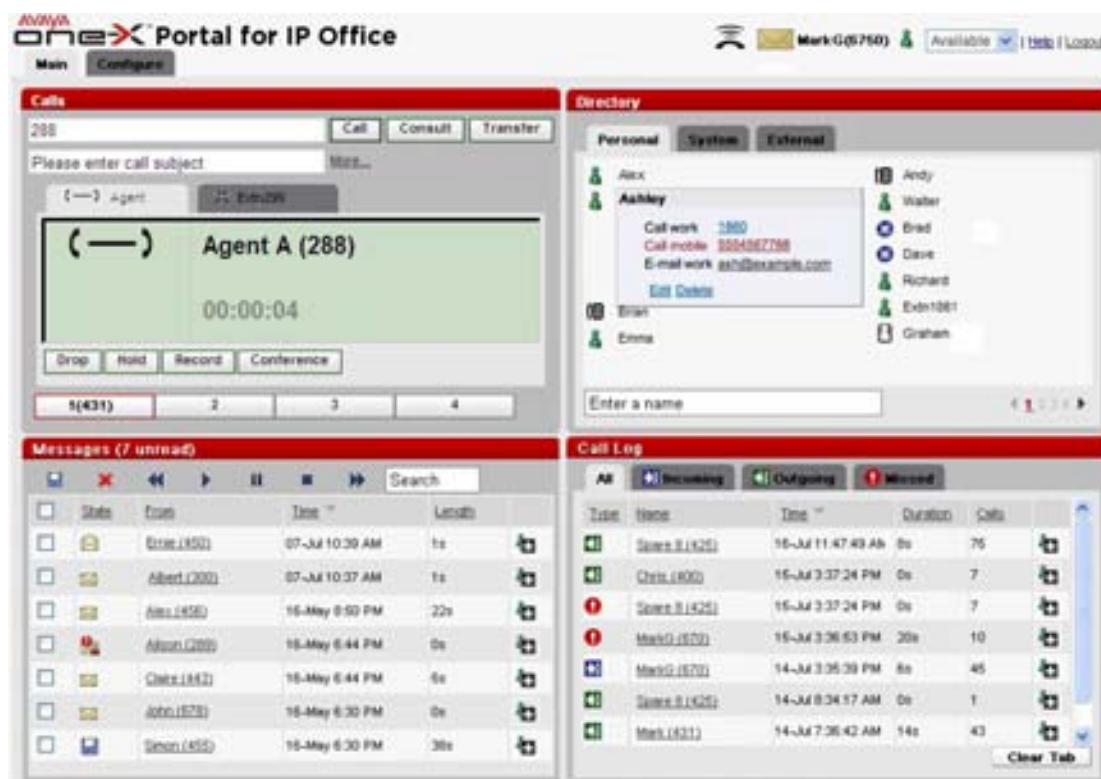
If the page is blank, your browser is not configured to support JavaScript and cannot be used for one-X Portal – enable JavaScript to resolve.

**Enter your user name and password.**

If you tick the Remember me on this computer option, your user name will be remembered. Only use this option if you are the only person who uses the computer.

**Click Login.**

- The message "Invalid user credentials" indicates that either the name or password was incorrect.
- The message "Your telephone is logged out. Please log you telephone in, then try again" indicates that you are not currently logged in at an IP Office phone.
- The message "A license could not be assigned to you. Please contact your administrator" indicates that you are either not licensed for one-X Portal usage or that one-X Portal could not connect to the telephone system.
- The message "CSTA Resource not available" indicates that your browser will not support one-X Portal.

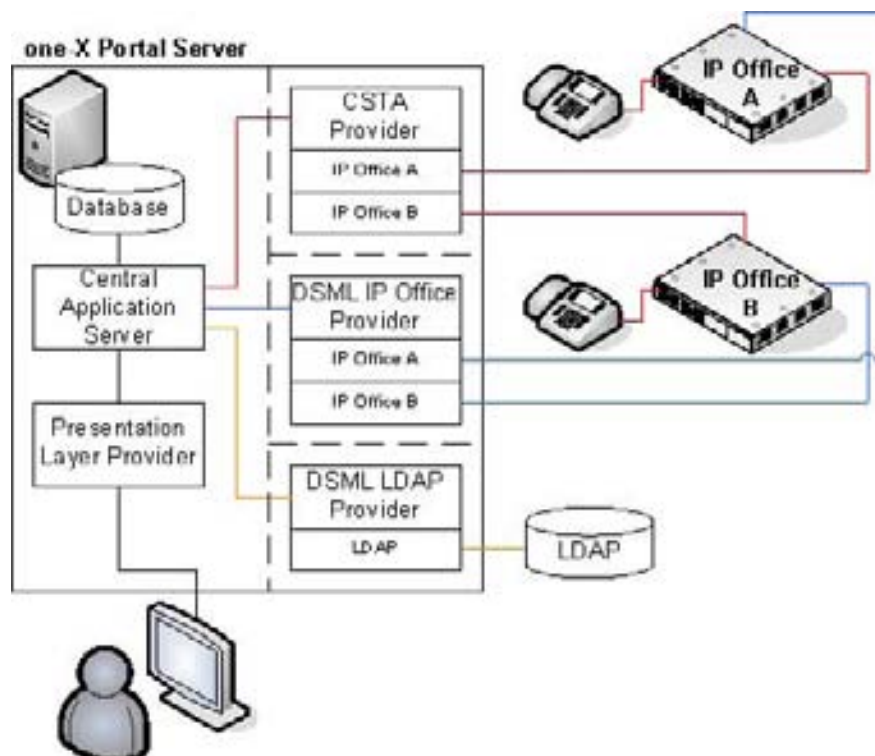
**Telephone Compatibility:**

one-X Portal is supported with IP Office telephones – 4600, 5600, 1600, SIP, DECT Endpoints and POT extensions. Any telephone where the IP office cannot control on/off hook i.e. IP DECT, DECT R4, POT, SIP Endpoint will utilize the IP Office Call Back to the User's telephone before making a call or retrieval from Hold, outgoing calls and Hold/Retrieval may require manual on/off hook intervention by the telephone User

Phone Manager PC Softphone (IP Phone Manager) is not supported for use with one-X Portal

**Phone Manager & one-X Portal**

Please note that use of a one-X Portal client and Phone Manager by the same User is not supported.



A key idea to understand for one-X Portal is providers. Providers are components of one-X Portal each of which performs a specific role. The different types of provider are:

- **Presentation Level Provider**  
This type of provider handles the browser connections between users and the one-X Portal server.
- **Telephony CSTA Provider**  
This type of provider handles telephony communications to and from the IP Office systems assigned to it.
- **Directory DSML IP Office Provider**  
This type of provider handles obtaining directory information from the IP Office phone systems assigned to it.
- **Directory DSML LDAP Provider**  
Handles obtaining LDAP directory information from an LDAP source. LDAP sources are assigned to the provider during installation.

### one-X Portal Server Installation requirements

- Each IP Office must have IP Office Release 5 Core software installed
- Each IP Office must be configured per user with a one-X Portal license key – with this release, a maximum 100 connected User client sessions at any time. A subsequent release of one-X Portal will remove this restriction.
- PC Operating System: Windows 2003 or Windows 2008 (32-bit or 64-bit).  
*Note : one-X Portal is not supported to be installed on the same server as other server applications.*

- **RAM Memory:** 2GB Free. one-X Portal will reserve memory
- **Available Hard Disk Space:** 10GB.
- **IP Office security settings set correctly – important – it will not work without this set correctly**
- **Only 1 x one-X Portal server can be connected to an IP Office system or connected to multiple IP Office systems within an SCN Network.**

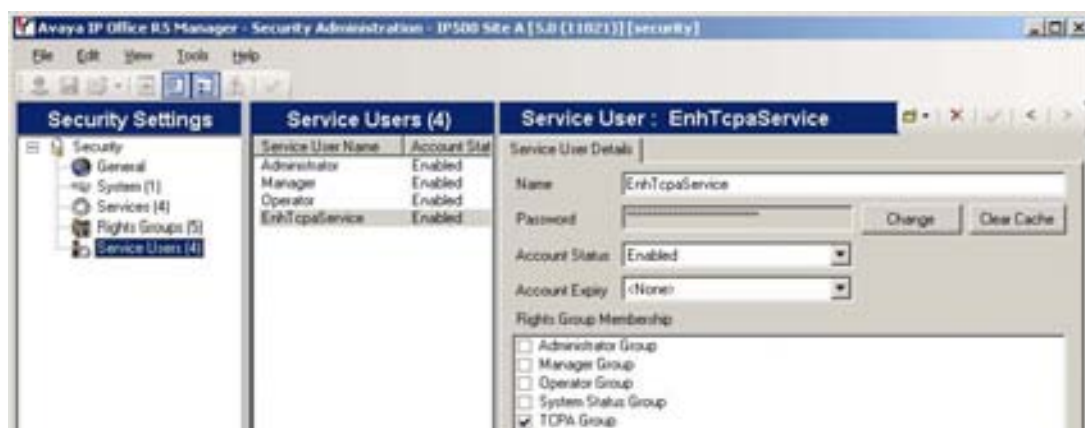
### Manager configuration and Security Settings

- The IP Office Control Unit should be licensed with a one-X Portal license key, this is licensed per User. Each User can be enabled for one-X Portal with a checkbox on the User Form. With this release, Maximum of 100 connected users/client sessions at any time. A subsequent release of one-X portal will remove this restriction.
- Ensure that there are no Username or Group name conflicts / Duplications in the IP Office configuration(s) both as single site and muti Site scenarios. This can be checked using SSA / Resources / Directory and click on “Conflicts”

### IP Office Security Settings

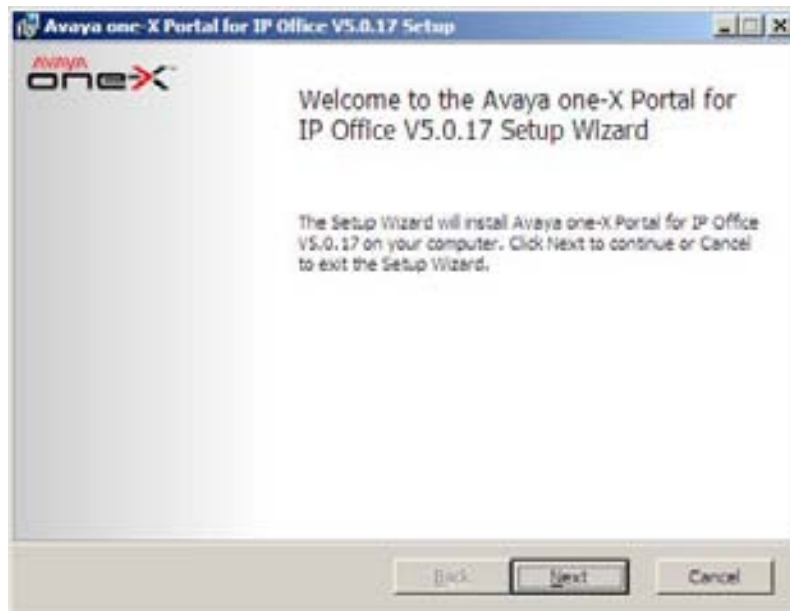
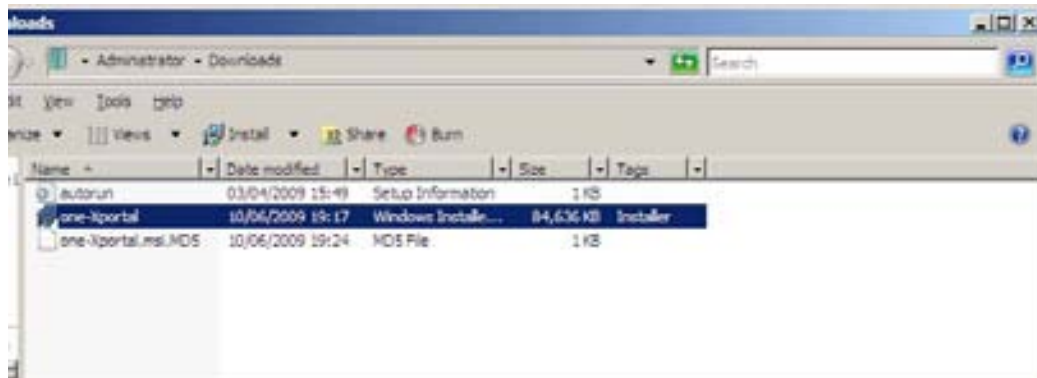
The correct settings should be installed by default on a new IPOffice Release 5 configuration. However, if Release 5 is installed as an upgrade from a previous version of software, and there are edited customer specific security settings entered, as a matter of security, the security settings as shown below will be incomplete and will need to be edited to the correct settings.

The list of **Service Users** should include a user called **EnhTcpservice**. In the service user details this user should be set as a member of the **TCPA Group**. If this is not the case correct the security settings, creating a new user if necessary. The user password should be **EnhTcpservice1**.

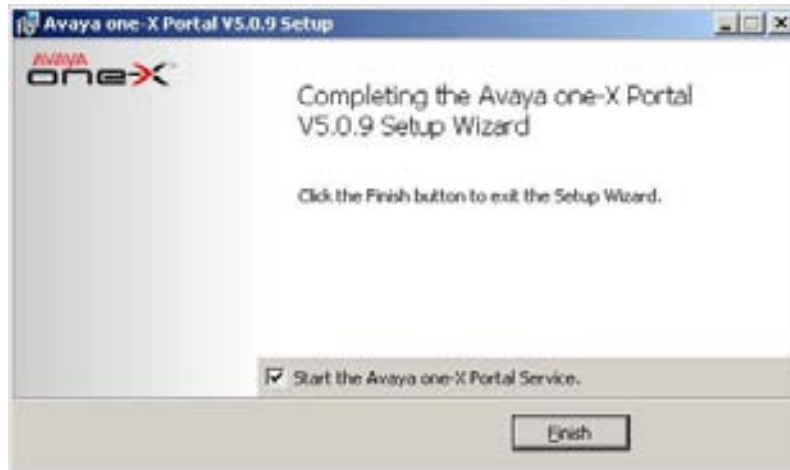


### one-X Portal Installation

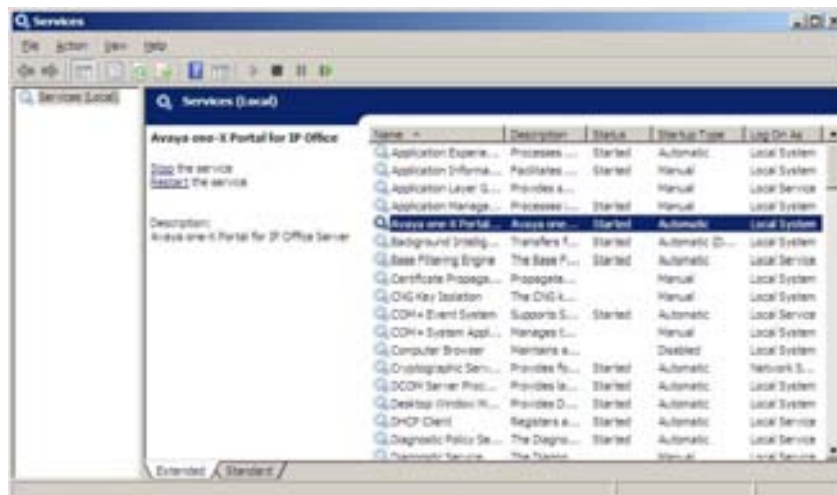
- Click on **“one-Xportal.msi”** to start the installation – the Wizard will start, then follow the prompts



Select to start the service



one-X Portal is a Tomcat Server – you can see the Tomcat service starting and reserving memory over about 5 minutes in Windows Task Manager. In Windows Services, you can see the service labeled as “Avaya one-X Portal”



To log into Administration enter the URL:

[http://Server\\_IP\\_Address:8080/inyama/inyama.html?admin=true](http://Server_IP_Address:8080/inyama/inyama.html?admin=true)

Username: Administrator

Password: Administrator

It will ask you to change the password later once you are logged into Administration.



Once you log in to Administration, it will ask you to enter configuration details to enable it to complete the installation.

You must enter the IP Address of the IP Office system(s) – separate each IP Address with a comma i.e. 192.168.42.1,192.168.42.2 – up to 32 x IPOffice systems supported.

At this point, if required, you can also click on Advanced Installation and enter the LDAP Directory Server details which one-X Portal will dynamically search if required

**STEP 2: Setting the IP Office IP Addresses**

**Description**  
Now you need to specify sources of user lists, directories & telephony services. Enter a comma separated list of the IP Address(es) of the IP Office Units which will be used.  
For example enter: 192.168.42.1,192.168.42.2  
In 'Advanced Provider Options' you may override default provider configuration values and specify an optional LDAP Directory Source common to all users.

**IP Office Unit IP Address(es)**  
192.168.42.1

**IP Office(s) not yet checked.**

☒ Simple Installation ☐ Advanced Installation  
► Status

[Check IP Office\(s\)->](#) [Configure for IP Office\(s\)->](#)

When IP addresses are entered, select “Check IP Office(s)” – one-X Portal will attempt to connect to each IP Office. If successful, the background will change from orange to green.

If unsuccessful, the background will turn to red. It is likely that the IP Office IP Addresses are incorrect, incorrect IP Office software installed (not 5.0) or the IPOffice is not licensed for one-X Portal. When checks are made and corrected, run another “Check IP Office(s)” to ensure the CSTA session is enabled correctly.

**IP Office Unit IP Address(es)**  
192.168.42.1

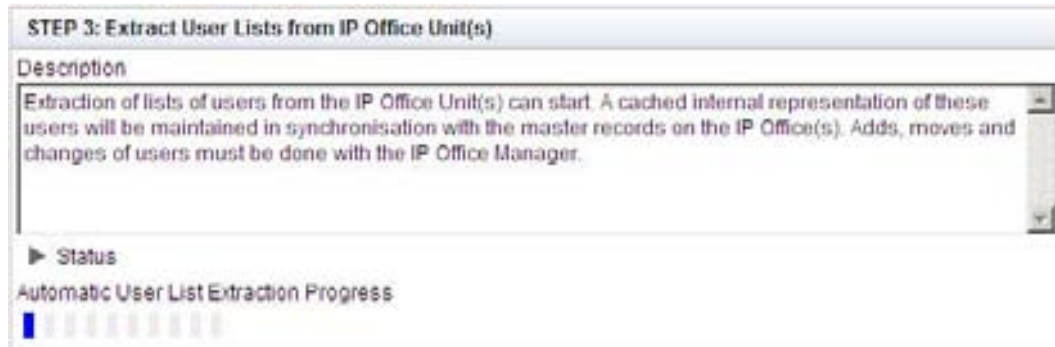
**All IP Office(s) have acceptable firmware version & licensing**

☒ Simple Installation ☐ Advanced Installation  
► Status

[Check IP Office\(s\)->](#) [Configure for IP Office\(s\)->](#)

Click on “Configure for IP Office(s)” – the server will connect to each IP Office and extract the User details of each of the system's User lists.

*Note – one-X Portal will only download users of the system(s) it is directly connected to, you cannot connect to one IPOffice only (within an SCN) and see all the Users on an SCN network nor will BLF status updates be provided. The one-X Portal server must be connected to each IP Office system resident within the SCN network to provide this information correctly.*



Once the User details are extracted, the one-X Portal server will extract the Directory entries for each system



The one-X Portal server will now prompt you to change the Administration Password, enter the new password in both boxes and select “Change Password” – the configuration stage is now complete.

**Administrator Default Password Check**

You must change the password from its default value.

New Password  
[Password field with 8 dots]

New Password(Typed Again)  
[Password field with 8 dots]

Passwords match

Password strength not enforced

**Change Password**

Open a browser in Firefox, Internet Explorer (version 6 is not supported) or Safari, and enter the URL :

[http://oneXportal\\_server\\_IP Address:8080/inyama/inyama.html](http://oneXportal_server_IP Address:8080/inyama/inyama.html) to start a Client login

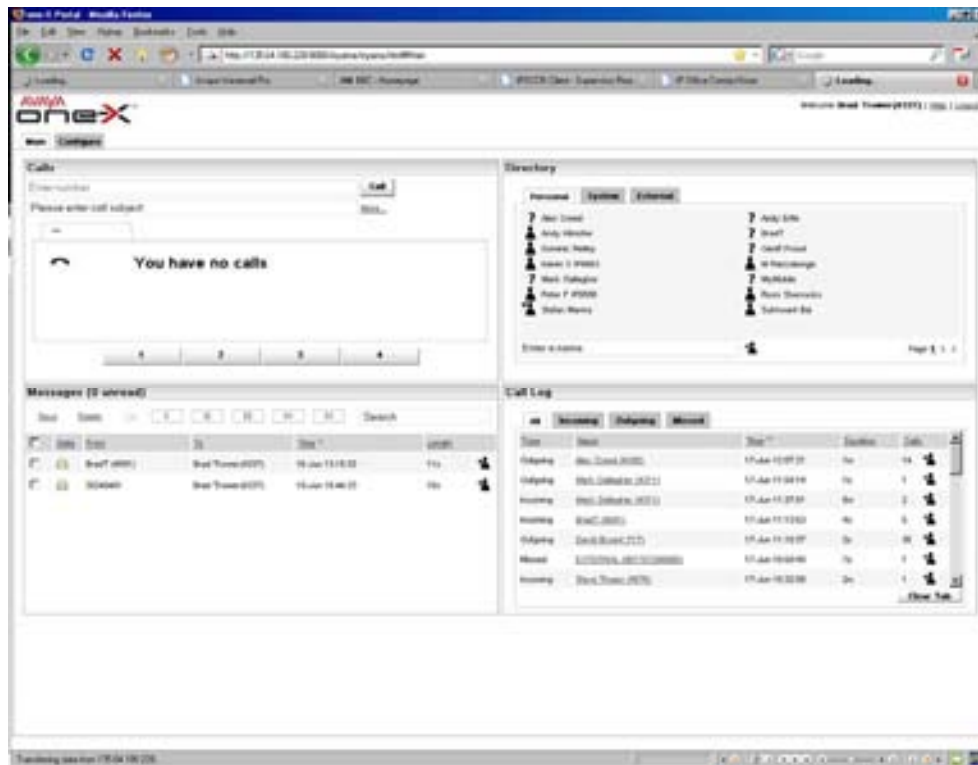
Enter the Username (*Name not User number*) and User Password (*if User password not set just leave blank*) similar to Phone Manager login



- If you get the Username or password wrong – it will display “Invalid User Credentials”
- If the IPOffice is disconnected from the network for any reason – it will display in red – “Telephone System Unavailable – Please Try Later”



On successful login – the one-X Portal client will open – it may take a short time to update the Voicemail and Call Log gadgets.

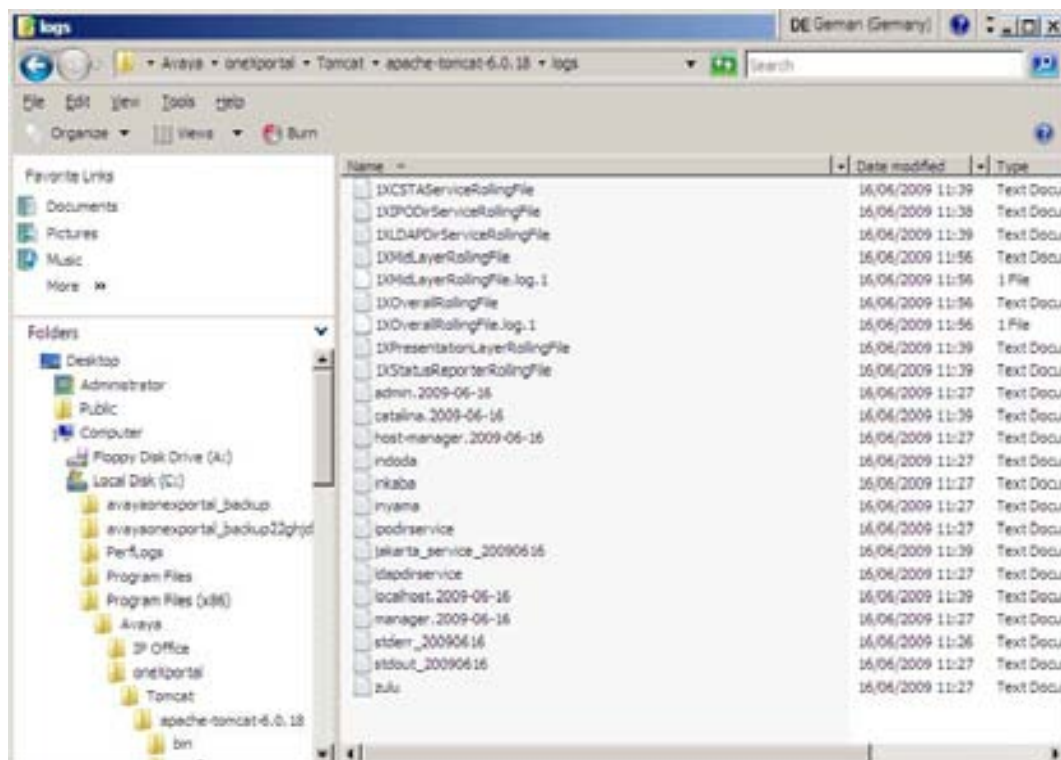


## Diagnostics

The one-X Portal logs are very detailed, you may be asked by the support teams to supply them.

The log files can be located in : Program Files/Avaya/oneXportal/Tomcat/Apache-Tomcat/Logs

These logs can be deleted before a restart of the one-X Portal service, new logs will be created to enable you to recreate a fault and capture the correct logs



- 1XOverallRollingFile & 1XMidLayerRollingFile – these logs should be captured together - they provide an overall general picture of the one-X Portal starting and interacting with the IP Office systems
- 1XCSTAServiceRollingFile – This log will capture in detail Telephony and Licensing activities
- 1XIPODirServiceRollingFile – This log will capture in detail User Lists and Directories activities

one-X Portal Administration provides some useful information – the manual gives details, but the most useful area is Health/Component Status – Click on “Get all” and it will give details of the CSTA and LDAP providers, green is good, red is a problem, usually detailing a lack of connectivity between the server and the IP Office

**AVAYA one-X**

**Health**

Component Status  
Key Recent Events  
Active Sessions  
Environment

**Component Status**

Description: Health of key one-X Portal for IP Office components

Create: **Get All** Put Selected Delete Selected

Status: All records have been fetched

| ID | Component Name                | Status    | Reported At             | Additional Info |        |
|----|-------------------------------|-----------|-------------------------|-----------------|--------|
| 12 | CSTA-Provider-1-135 64181.220 | Available | 2009-06-17 10:31:55.836 | Provider Ok     | Delete |
| 13 | CSTA-Provider-1-135 64181.221 | Available | 2009-06-17 10:30:59.813 | Provider Ok     | Delete |
| 14 | CSTA-Provider-1-135 64181.222 | Available | 2009-06-17 10:30:57.844 | Provider Ok     | Delete |
| 15 | CSTA-Provider-1-135 64181.223 | Available | 2009-06-17 10:31:00.335 | Provider Ok     | Delete |

Page: 1 of 1 1 2 3 4

Key Recent Events  
Active Sessions  
Environment

**Configuration**  
Diagnostics  
Directory Integration  
Help & Support

The Diagnostic Tab provides some facilities which are useful to diagnose network problems, the ability to ping and system and download details of a particular IP Office by entering the IP address



## 5 Technical Notes

### Windows Operating System Support

| Application                      | XP Pro | Vista | 2003 Server | 2008 Server |
|----------------------------------|--------|-------|-------------|-------------|
| Call Status                      | ✓      | ✓     | ✓           | ✗           |
| CBC                              | ✗      | ✗     | ✗           | ✗           |
| CCC Server                       | ✗      | ✗     | ✓           | ✗           |
| • Standalone Delta Server        | ✓      | ✓     | ✓           | ✗           |
| • Wallboard Server *             | ✓      | ✓     | ✓           | ✗           |
| • Wallboard Client *             | ✓      | ✓     | ✗           | ✗           |
| • PC Wallboard *                 | ✓      | ✓     | ✗           | ✗           |
| • Call Center View (CCC) *       | ✓      | ✓     | ✗           | ✗           |
| • CCC Reporter *                 | ✓      | ✓     | ✗           | ✗           |
| Conferencing Center **           | ✗      | ✗     | ✓           | ✗           |
| Contact Store ***                | ✓      | ✓     | ✓           | ✓           |
| Feature Key Server               | ✓      | ✓     | ✓           | ✗           |
| Manager                          | ✓      | ✓     | ✓           | ✓           |
| Microsoft CRM Integration        | ✓      | ✓     | ✓           | ✗           |
| Monitor                          | ✓      | ✓     | ✓           | ✓           |
| Phone Manager Lite               | ✓      | ✓     | ✗           | ✗           |
| Phone Manager Pro                | ✓      | ✓     | ✗           | ✗           |
| Phone Manager PC Softphone       | ✓      | ✓     | ✗           | ✗           |
| SoftConsole                      | ✓      | ✓     | ✗           | ✗           |
| System Status Application (SSA)  | ✓      | ✓     | ✓           | ✓           |
| TAPI                             | ✓      | ✓     | ✓           | ✓           |
| VoiceMail Lite                   | ✗      | ✗     | ✗           | ✗           |
| VoiceMail Pro Server             | ✓      | ✓     | ✓           | ✓           |
| • UMS and Web Campaigns ****     | ✗      | ✗     | ✓           | ✓           |
| • IMS and Web Campaigns *****    | ✗      | ✗     | ✓           | ✗           |
| • plus IVR and / or TTS          | ✓      | ✓     | ✓           | ✓           |
| One-X Portal for IP Office ***** | ✗      | ✗     | ✓           | ✓           |
| CCR 1.1.1.2 *****                | ✗      | ✗     | ✓           | ✗           |

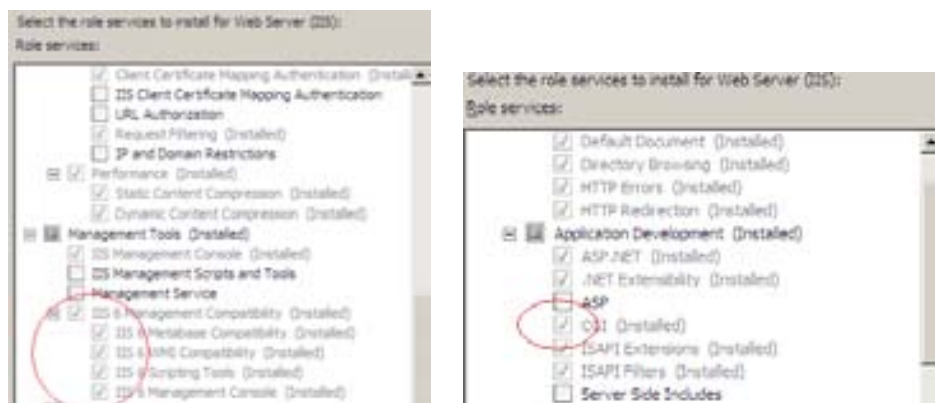
**Note:** Vista support requires Microsoft Vista Business and Ultimate editions running Service Pack 2. It is not available on Microsoft Vista Home Basic and Home Premium editions. IP Office 5.0 applications are not supported on Microsoft 2000 Professional and 2000 Server.

\* CCC Wallboard server supports Vista SP2 & Windows 2003 SP2.  
Wallboard Client, PC Wallboard, CCC Reporter and CCV all support Vista SP2.

\*\* Conferencing Center full server Installation is not supported on Microsoft Vista. However, the Web Client Host application is supported.

\*\*\* ContactStore version 7.8 supports IE7 and is now also supported on Vista and 2008 operating systems (32bit only). Version 7.2 does not support Vista or 2008 server.

\*\*\*\* VoiceMail Pro installed on Microsoft Server 2008 should have the following Microsoft options enabled for Internet Information Services (IIS) and Common Gateway Interface (CGI).



\*\*\*\*\* Windows Server 2008 (32 bit and 64 bit) will support VoiceMail Pro Release 5 however "IMS" is not an install option in Release 5 Voicemail Pro. Existing IMS installed components will be retained when upgrading from a previous version of Voicemail Pro to release 5.

\*\*\*\*\* one-X Portal is only supported as an installation on a bespoke (standalone) server, it cannot be installed with other server applications

\*\*\*\*\* CCR 1.1.1.2 Supports Windows Server 2003 (32 bit only) SP2, R2 & Small Business Server.

**Note:** Windows XP 64bit is not supported with any applications.

## 6 Resolved in IP Office Release 5 Software

### IP Office Core Software

| CQ Number | Headline                                                                                                               |
|-----------|------------------------------------------------------------------------------------------------------------------------|
| CQ58907   | The Italian description in the 6.1.9 Manager Help Text for the Short Code Telephone Number character "W" is incorrect. |
| CQ39618   | IP phone to SIP trunk not releasing VCM resource after hold                                                            |
| CQ65170   | IP Trunks - Out Of Band DTMF Setting should be grayed out when Voice Networking Enabled                                |
| CQ70013   | Remote Distributed Hunt Group - Voicemail Timeout option is available to change on remote HG configuration             |
| CQ76737   | Channels are automatically made Out of Service when switching to ETSI CHI                                              |
| CQ35379   | Manager Help File - Italian Translations                                                                               |
| CQ66010   | 4.2 Sysmon Trace Enhancement                                                                                           |
| CQ67856   | Italian translation for "Appearance keys should be programmed in contiguous blocks" required                           |
| CQ67857   | Italian translation for "UMS Web Services is enabled but no VM code is configured" required                            |
| CQ68561   | Manager Application errors appearing in English - Italian locale set                                                   |
| CQ77715   | IPO SMDRs have the ring time set to 0 for calls that transit the node.                                                 |
| CQ80355   | BRI4u (Mezzanine) board locks and cannot make new Data (Or Voice) call when a circuit is set to S-Bus                  |
| CQ49937   | Missing translation for localized resources.                                                                           |
| CQ77108   | caller display shows wrong information after Voice mail breakout DTMF (2) it's pressed                                 |
| CQ58957   | Swedish prompts missing when temporary greetings are active for X number of days.                                      |
| CQ77371   | Call Privacy function - persists past Logout/Login - which our Manager help file says is incorrect                     |
| CQ63074   | Can all non used options be removed, or grayed out if reserved for future use.                                         |
| CQ57923   | Manager - Unit=IP500; Slot=0; Extn=Carrier; Trk=ANLG 4(LS). TB80 states IP500 & ANLG 4 (LS) is not allowed.            |
| CQ70171   | No Help available on the Send Configuration dialog box                                                                 |

### IP Office Voicemail Pro

| CQ Number | Headline                                                                                                                         |
|-----------|----------------------------------------------------------------------------------------------------------------------------------|
| CQ39905   | Rapid dialing of digits results in invalid entry on voicemail pro                                                                |
| CQ64489   | Italian Translation Required for Forward window in Web client - translate to "Inoltro"                                           |
| CQ65061   | Translation Required - French- Voicemail Pro (VM Pro) Install wizard has English in Description when using Custom Install        |
| CQ61257   | Please replace the Italian word used for desk, "tavolo", with "ufficio" in the Italian G0102 and G0122 .wav files                |
| CQ68140   | Documentation - Short Code for Manual Record feature is not applicable in v4.x                                                   |
| CQ65639   | Translations required for Italian Voicemail Pro when Unlocking a User                                                            |
| CQ68637   | 4.2.19 Voicemail Pro "Database Execute" will not work with "\$Key" when the database it interrogates is using Data type "Number" |
| CQ79479   | Contact Store DEBUG URL not working - Same as CQ27726 - .pdf file installed on PC needs to be amended also.                      |

### Contact Store Bug Fixes

| CQ Number | Headline                                                                  |
|-----------|---------------------------------------------------------------------------|
| CQ31840   | Error message when entering system overview screen on Spanish OS install. |
| CQ39003   | Unable to archive to DVD if files are missing                             |
| CQ39792   | Contact Store showing a Java error                                        |
| CQ39872   | Contact Store will not work if SQL 2005 is installed on the same server   |

## 7 Known Issues

### Manager

**Button Programming:** As stated in the IP Office help text Appearance buttons should be programmed on the telephone consecutively and before any other button types. The 4.2 Manager would allow appearance buttons to be programmed on any button but would display an error. Release 5.0 Manager will not allow appearance buttons to be programmed in this way; **this should be considered prior to upgrading a system.** Once upgraded to 5.0, any appearance which was not programmed consecutively and before any other button cannot be edited using Manager.

## 8 Upgrade Installation Notes



### IMPORTANT INFORMATION

#### DSv2 Expansion Modules

A new loader has been provided for the DSv2 Expansion modules. When these modules are upgraded they normally restart twice at the end of the upgrade; this loader stops this behavior so that they will only restart once and so speed up future upgrades.

The intermediary image can be found in the \bin\nadcpv2\V3\_2\_999 directory of the admin CD or in the Manager\V3\_2\_999 directory on a PC with the 4.x admin suite installed. Once this has been loaded the actual 5.x software may be loaded as normal.

### Identifying the amount of memory in the IP406v2

Early 406v2 units only have 16Mb of memory, later units have 64Mb. Although it is possible to check the PCS version of a 406v2 system by looking at the printed label on the unit there are some pre PCS08 systems in the field that do have 64Mb of memory.

The best way to check the memory is to run the System Monitor application; this means it is possible to check this remotely. You will need to make sure that the "Resource Status Print" option on the System tab is enabled to be able to check the memory. When you connect to the system you will see a similar entry in the System Monitor output as shown below:

```
RES: Fri 3/2/2007 13:43:29 FreeMem=43346748(16) CMMsg=6 (6) Buff=100 520
500 520 1 Links=4194
```

If you look at the "FreeMem" value you will be able to tell what memory configuration your IP406v2 unit has. In the example above there is 43Mb free, so this is a 64Mb system. If you have a 16Mb system this value will be below 10 Mb.

If you do attempt to upgrade a system that does not meet the minimum requirements the upgrade Wizard will show a pop-up error stating the unit failed to meet the minimum hardware requirements to be upgraded:

## 8.1 IP Office 4.2 Admin Suite Upgrades

Before any upgrades commence the IP Office 5.0 Admin Suite must be installed. Admin Suite upgrades are supported from version 4.2; any version prior to this must be removed first before the latest Admin Suite can be installed.

The 5.0 Admin CD does not incorporate Voicemail Lite or CBC as these applications are not supported in 5.0 software.

## 8.2 Core Upgrade Path from Previous Releases

The table below shows the necessary steps that must be taken to upgrade to release 5.0:

| Platform          | Current Release             | Upgrade Step 1          | Upgrade Step 2 | Upgrade Step 3 |
|-------------------|-----------------------------|-------------------------|----------------|----------------|
| IP406v2           | 2.1(27)                     | Load 2.1(35) and higher | Load 4.2       | Load 5.0       |
| IP406v2           | 2.1(35) and higher          | Load 4.2                | Load 5.0       |                |
| IP406v2           | 3.0                         | Load 4.2                | Load 5.0       |                |
| IP406v2**         | 3.1(62) and lower           | 3.1.999 Loader **       | Load 4.2       |                |
| IP406v2           | 3.1(63) and higher          | Load 4.2                | Load 5.0       |                |
| IP406v2           | 3.2                         | Load 4.2                | Load 5.0       |                |
| IP406v2           | 4.0 / 4.1 / 4.2             | Load 5.0                |                |                |
| IP412             | 2.1                         | Load 4.2                | Load 5.0       |                |
| IP412             | 3.0                         | Load 4.2                | Load 5.0       |                |
| IP412             | 3.1                         | Load 4.2                | Load 5.0       |                |
| IP412             | 3.2                         | Load 4.2                | Load 5.0       |                |
| IP412             | 4.0 / 4.1 / 4.2             | Load 5.0                |                |                |
| IP500***          | 4.0.0***                    | Load 5.0                |                |                |
| IP500             | 4.0 / 4.1 / 4.2             | Load 5.0                |                |                |
| DSv2 module*      | 2.1                         | 3.2(999) Loader*        | Load 5.0       |                |
| DSv2 module*      | 3.0                         | 3.2(999) Loader*        | Load 5.0       |                |
| DSv2 module*      | 3.1                         | 3.2(999) Loader*        | Load 5.0       |                |
| DSv2 module*      | 3.2                         | 3.2(999) Loader*        | Load 5.0       |                |
| DSv2 module*      | 4.0 / 4.1 / 4.2             | Load 5.0                |                |                |
| All other modules | 2.1/3.0/3.1/3.2/4.0/4.1/4.2 | Load 5.0                |                |                |

**Note:** The IP Office Small Office Edition is not supported with 5.0 software

**\* Note:** When upgrading DSv2 modules to the 3.2(999) release an additional step may be needed. If the modules are attached to an IP406v2 system the Upgrade Wizard will report an error if there is not an IP406u.bin file in the V3\_2\_999 directory.

Please copy the IP406u.bin file from the Manager directory to the V3\_2\_999 directory before attempting to upgrade the DSv2 expansion modules.

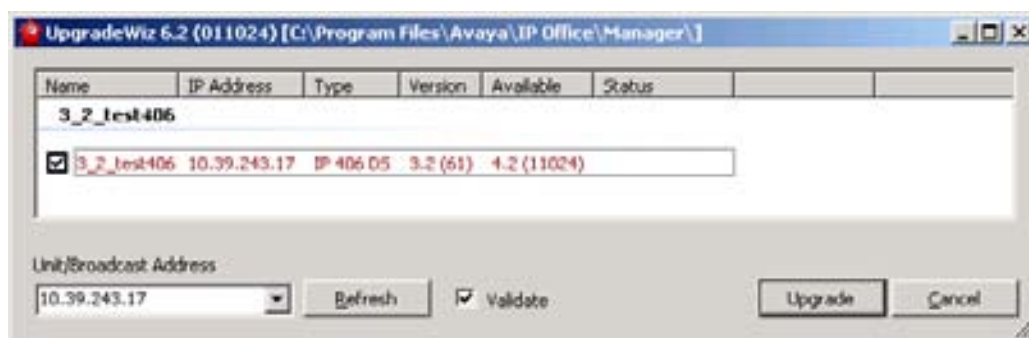
**\*\* Note:** The 3.1.999 loader can be found in the bin\IP406v2\V3\_1\_999 directory of the admin CD or in the Manager\V3\_1\_999.

**\*\*\* Note:** The IP Office 500 system is shipped from the factory with software version 4.0.0 installed. This is not a fully functioning version of software and **MUST** be upgraded to the IP Office 5.0 software.

To upgrade the Control and Expansion units do the following:

If you do not need to upgrade your loader (DSv2 modules and IP406v2 running early 3.1 releases) please go to step 11. (Please take note of the message that the Upgrade Wizard shows at the start of the upgrade, shown in step 9 below, before you start).

1. Install the Admin Suite as normal.
2. Open the Manager application.
3. Before starting any upgrades ensure that you have received and made a backup copy of the latest IP Office configuration. If for any reason the upgrade fails, the current configuration may be erased, so a backup copy is essential.
4. From the file menu go to Change Working Directory and change the Binary Directory to C:\Program Files\Avaya\IP Office\Manager\V3\_2\_999.
5. In Manager select File | Advanced | Upgrade. This will start the Upgrade Wizard application.
6. After a few seconds the upgrade wizard should show the units found.
7. A window similar to the one below is displayed. The list shows the current



software levels of the units and the level of the appropriate bin file that is available in the Manager/Binary working directories.

8. The current version and available versions are displayed. Tick the check box under Name if it is not already ticked then click on Upgrade.
9. After clicking on Yes the upgrade process will begin, follow any on screen prompts. When the upgrade wizard informs you that all units have been upgraded click on OK and close down the upgrade wizard.
10. Make sure that the Manager Working Directories are set to C:\Program Files\Avaya\IP Office\Manager.

11. Now follow steps 5-9 again to upgrade your system to IP Office Release 5.

### 8.3 Unit Compatibility - Expansion Unit Interoperability

All expansion units must be upgraded or downgraded to match the CPU software.

### 8.4 VoiceMail Pro Software Upgrade Summary

Operating System Linked dependencies:-

- Windows XP professional
- Windows 2003
- Windows Vista (No IMS, Campaigns or Web Voicemail)
- Windows 2008 Server (Supporting correctly configured IIS) (No IMS)

The table below shows the necessary steps that must be taken to upgrade your VoiceMail Pro system to release 5.0.

| Product       | Current Release | Upgrade Step                   |
|---------------|-----------------|--------------------------------|
| VoiceMail Pro | 2.1             | Uninstall 2.1 and install 4.2  |
| VoiceMail Pro | 3.0             | Uninstall 2.1 and install 4.2  |
| VoiceMail Pro | 3.1             | Uninstall 3.1 and install 4.2  |
| VoiceMail Pro | 3.2             | Upgrade Installation Available |
| VoiceMail Pro | 4.0 / 4.1 / 4.2 | Upgrade Installation Available |
| VoiceMail Pro | 5.0             | Upgrade Installation Available |

It is important that the settings of an existing VoiceMail Pro are exported before any upgrade. Although folders that contain prompts and messages are not affected by the upgrade process the editable version of a customer call flow is lost.

### 8.5 Upgrading from a Pre-3.2 VoiceMail Pro System

VoiceMail Upgrades to 4.2 from pre 3.2 versions are not supported.

The following steps should be followed when going from pre 3.2 to 4.2

1. Export the VoiceMail Pro Database.

Before removing VoiceMail Pro, you should create a backup copy of the call flow database. This will contain any customizations made to the default call flow. **You should also backup the registry settings specific to VoiceMail Pro & IMS.**

1. Start the VoiceMail Pro GUI.
2. From the File menu, select the option Import or Export.
3. Select the option Export callflows and click **Next**.
4. Enter a file path and file name ending in .mdb, e.g. C:\temp\backup.mdb.
5. Click **Next**.
6. Click **Finish** to start the export then click **Close** to complete the export procedure.
7. Close the program.

8. Insert the new VoiceMail Pro CD and cancel the install wizard if it starts automatically.
9. Right-click on the CD drive and select Open.
10. Locate the file Backupreg.bat and double-click it to run the application.  
This backs up any registry settings associated with VoiceMail Pro.

**Note:** Before proceeding to the next step make sure that the registry entries have been backed up correctly. The batch file should have created 3 backup files in the Windows Temp directory. Make sure that the following 3 files exist in that location:

- VMPro.arf
- NetAly.arf
- IMSGateway.arf

## 2. Uninstall VoiceMail Pro.

1. Open the Windows **Control** Panel.
2. Select **Add/Remove** Programs.
3. Select IP Office VoiceMail Pro and click **Add/Remove**.
4. From the options offered select **Remove** and click **Next**.
5. Follow any prompts given during the removal process.
6. When the process has been completed select the option **Yes**, I want to restart my computer now and click **Finish**.

Once the PC has restarted you need to restore the registry settings before installing the new version of software.

## 3. Restore the Registry.

1. Right-click on the CD drive containing the VoiceMail Pro CD and select Open
2. Locate the file Restorereg.bat and double-click it to run the application. This restores the registry settings previously associated with VoiceMail Pro.

## 4. Install the new VoiceMail.

1. Insert the new VoiceMail Pro CD. If the setup does not start automatically, right click the CD drive & select **AutoRun**. Alternatively run setup.exe.
2. Install the VoiceMail Pro, as per the installation guide.

## 5. Import the VoiceMail Pro Callflows & Registry settings.

1. Start the VoiceMail Pro GUI.
2. From the File menu select the option **Import** or **Export**.
3. Select the option **"Import Call Flows"** and click **Next**.
4. Use the Browse button to locate the backup file then click **Next**.
5. Click **Finish** to start the import then click Close to complete the import procedure.
6. Click on Save and Make Live to save the Call flows.

## 8.6 Upgrading from VoiceMail Pro Systems 3.2 or Later

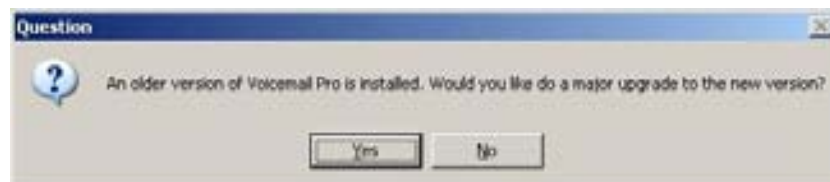
**BACKUP MDB:** It is recommended that you do back up the MDB file prior to performing any VoiceMail Pro upgrade.

The following steps should be followed when upgrading from Version 3.2 or 4.1 VM Pro servers:

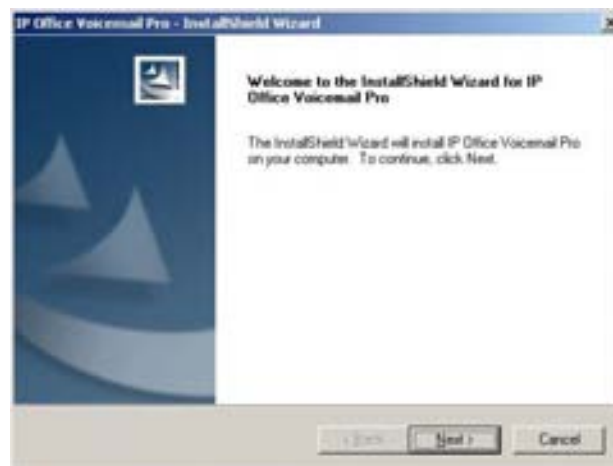
1. Insert the VoiceMail Pro CD, if it does not auto-run browse to the CD and click on setup.exe
2. At the language prompt, make your selection & Press OK.



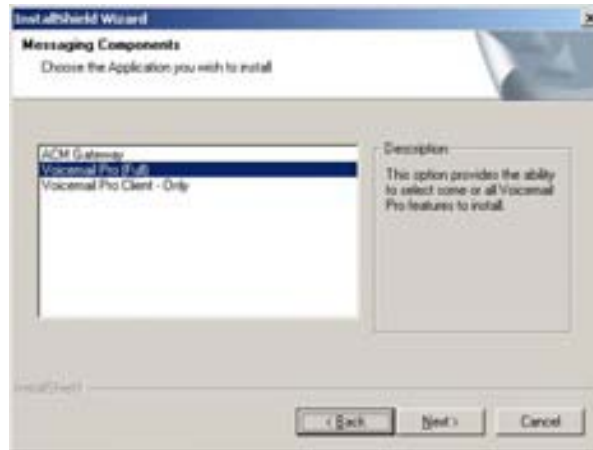
3. A prompt will appear informing you that there is an older version of VoiceMail Pro installed and will offer a major upgrade. A major upgrade looks very similar to a new installation.



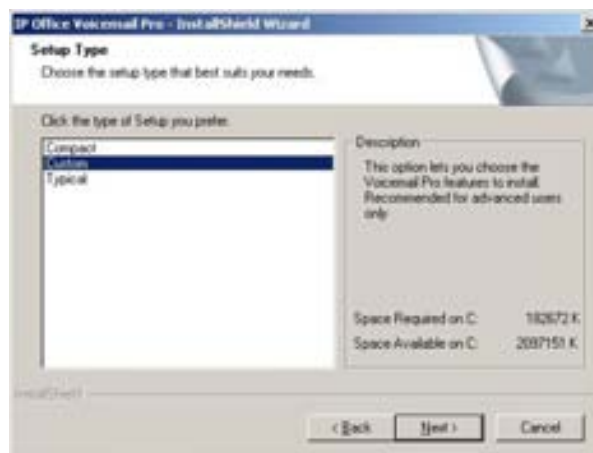
4. Select Yes.
5. At the welcome screen click on Next.



6. At the Messaging components screen select VoiceMail Pro (Full) and click on Next.



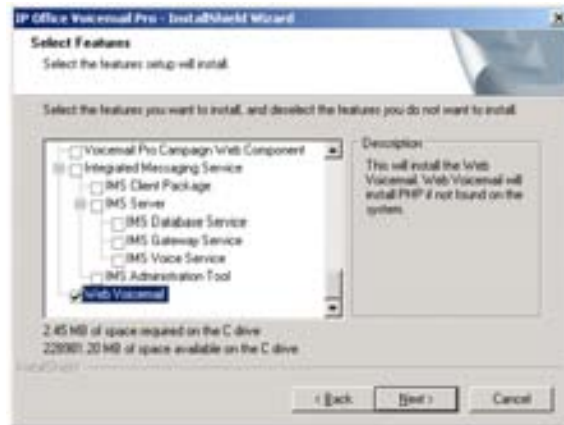
7. At the Setup Type screen select Custom and click on Next.



8. At the Select Features screen select the components that you already have installed.



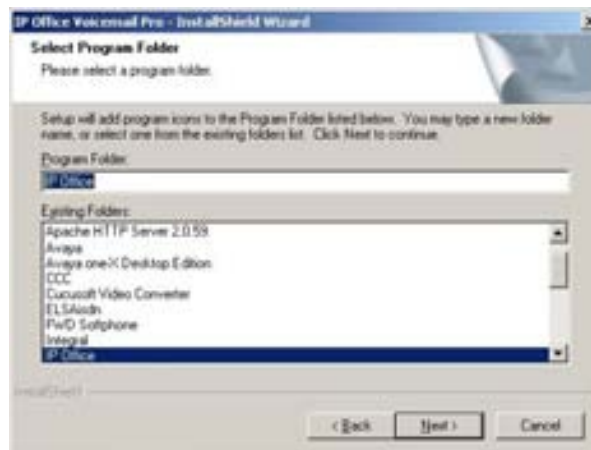
9. At the Select Features screen select Web Voicemail components option to install the new 4.2 Web Client integration to VoiceMail Pro then click on Next.



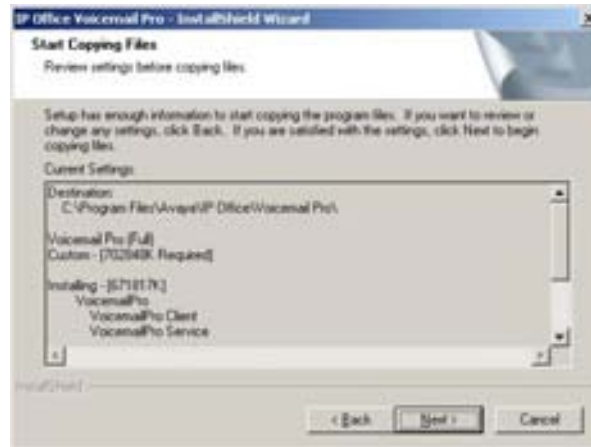
10. At the Service Account name screen enter your service account details and then click on Next.



11. At the Select Program Folder screen click on Next.



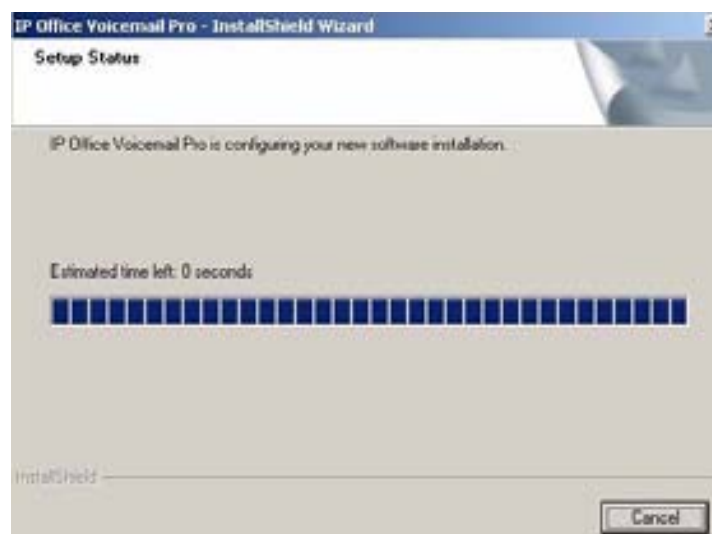
12. At the Start Copying files screen click on Next.



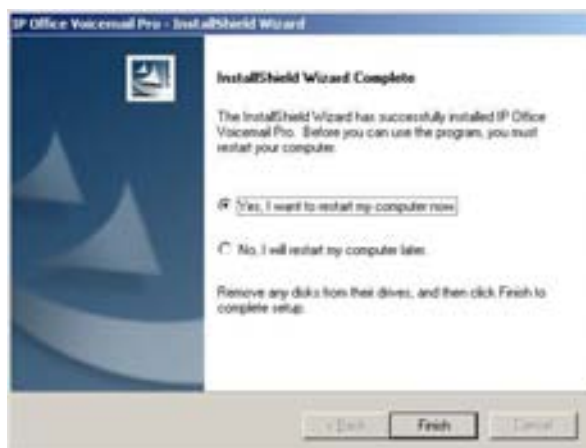
13. The new version of IP Office software will now be installed. PHP will also be installed during this process.



**Note:** When the below screen is seen it states 0 seconds and indicates upgrade has almost finished installing the VoiceMail software. If a delay is experienced before the "Finish" screen is then populated, do not press Cancel. Wait for the Finish screen to be shown.



14. Finally restart the PC to complete the installation.



- The .Net environment is a prerequisite. In case of absence of .net environment the installer will install the .Net 2.0 frameworks.
- IIS (v6) Admin Service is a prerequisite for Web Integration and Web Campaigns.
- Advice of record will be enabled by default in US.
- When using VPIM, an SMTP service is required on the VMPro Server.
- The backup utility would be stored at <VoiceMail Pro root directory>

## 9 Assistance

### 9.1 Documentation

IP Office Release 5 Documentation can be found on <http://support.avaya.com>

1. Select FIND DOCUMENTATION and DOWNLOADS by PRODUCT NAME.
2. Select IP Office.
3. Select the Software release required.
4. Select the Documentation Categories required.

### 9.2 Software

Avaya will supply DVD media to Avaya Authorized Distributors that have a current contract with Avaya. Avaya will not supply DVDs directly to Business Partners. Business Partners are required to order DVD media from their respective Avaya Authorized Distributors. Separate CDs are no longer available with release 5.

The following DVDs is available with the release of 5.0 IP Office:

| Material Code | Description                |
|---------------|----------------------------|
| 700472863     | IPO DVD 5.0 USER/ADMIN SET |

**Note:** It may be acceptable to duplicate this media (CD/DVD) but your contract with Avaya needs to be reviewed in the first instance. If permitted, copies may then be made which must contain an Avaya Proprietary Notice on the DVD.

### Web Availability

The IP Office Release 5 binaries for the core platform and DVD images of IP Office Release 5 applications will be available on the Avaya Support website by August 3, 2009. IP Office Release 5 will be downloadable and usable free of charge. However, please note that Avaya reserves the right to charge for future software releases at its discretion.

1. Go to <http://support.avaya.com>
2. Click "Downloads" under "Resource Library"
3. Select "IP Office" under "Download by Product Name"
4. Select "5.0" under "Select a Release"

## 9.3 IP Office Authorization and Avaya University Training

Avaya Product Authorization is designed to ensure our Avaya Channel Partners have the capabilities and skills to successfully design, sell, and implement **Avaya** products/solutions to exceed customer expectations.

Product Authorization requirements may be found at:

<http://www.avaya-learning.com>.

### New and updated Classes available with IP Office Release 5

Training is one component that must be fulfilled prior to being an Authorized Avaya Channel Partner. The Avaya University IP Office Technical curriculum is updated to reflect IP Office Release 5 through the addition of a new IP Office Product Delta course that covers the major enhancements and customer benefits associated with Release 5. Please find the new or updated courses below:

| Course Title/<br>Description                                                     | Modality | Duration | Summary/Comments                                     |
|----------------------------------------------------------------------------------|----------|----------|------------------------------------------------------|
| ACT00916WEN IP Office Hardware, Application and Data Component                   | Web      | 6.0 hrs  | Update with Rel 5 Features                           |
| ATC00470WEN IP Office CCR Implement Basic                                        | Web      | 4.0 hrs  | New<br>went GA end of May 09                         |
| ATC00470WEN IP Office CCR Implement Basic<br><b>Assessment</b>                   | Web      | 0.5 hrs  |                                                      |
| ATU01201WEN IP Office Release 5 Technical Delta                                  | Web      | 3.0 hrs  | New - course to replace ACT00992WEN                  |
| ATU01201AEN IP Office Release 5 Technical Delta<br><b>Assessment</b>             | Web      | 0.5 hrs  |                                                      |
| ATC01221IEN IP Office Release 5 Implement Core                                   | ILT      | 40 hrs   | New - course merging 920 and 940                     |
| ATC01221AEN IP Office Release 5 Implement Core<br><b>Assessment</b>              | ILT      | 1 hrs    |                                                      |
| 132-S-916.3 IP Office Release 5 Implement and Support Elective Exam - Specialist | Web      | 3 hrs    | Update - Exam questions to be updated to release 5.0 |

## 10 IP Office Licensing

### IP Office System Licenses

The following licenses are supported on all current IP Office control units (IP500, IP406v2 and IP500) running R5.

#### IP Office Preferred Edition

##### **Preferred Edition: IPO LIC PREFRD (VM PRO) RFA LIC:DS (171991)**

Enables advanced messaging, multi-level automated attendant, secure meet-me conferencing, call recording, conditional call routing as well as queue announcements. In particular, this system license enables meet-me conferencing, VoiceMail Pro and provides the initial 4 messaging ports. If additional voicemail ports are required, these can be bought at time of purchase or later.

#### IP Office Advanced Edition

##### **Advanced Edition: IPO LIC ADVANCED RFA LIC:DS (227043)**

Enables tracking and measuring customer service and agent productivity, search & replay of call recordings and interactive voice response (IVR) with external databases. In particular, this system license enables IP Office Customer Call Reporting (CCR), ContactStore Call Recording Library, Interactive Voice Response (IVR), Visual Basic Scripting and 8 ports of third-party Text-to-Speech to allow database queries using IVR to be read over the phone. Included in Advanced Edition are the following licenses:

##### **Customer Service Supervisor License - 1 User: 1 x IPO LIC CUSTMR SVC SPV RFA 1 (217655)**

##### **VMPro Recordings Administrators License: 1 x IPO LIC CONTACTSTORE RFA LIC:DS (187166)**

##### **Voicemail Pro VB Script License: 1 x IPO LIC VB SCRIPTING RFA LIC:DS (182300)**

##### **Voicemail Pro Database Interface License: 1 x IPO LIC 3RD PRTY IVR RFA LIC:DS (182298)**

##### **Voicemail Pro TTS (Third-party) 8-port License: 8 x IPO LIC 3RD PRTY TTS RFA LIC:CU (182303)**

These licenses enable the following customer service applications:

##### **Customer Service Supervisor License - 1 User: IPO LIC CUSTMR SVC SPV RFA 1 (217655)**

This supervisor license enables a supervisor to use IP Office Customer Call Reporter to track, measure and create reports for agent (or a group of agents) productivity via a web browser interface.

##### **VMPro Recordings Administrators License: IPO LIC CONTACTSTORE RFA LIC:DS (187166)**

Standard Voicemail Pro supports automatic and or manual call recording to specified mailboxes. This license allows it to use a 3rd-party application to support the storage and administration of call recordings. Currently the supported application for this is ContactStore for IP Office. When used manual and or automatic records calls can be routed (along with the call details) to the ContactStore applications database for storage and retrieval when required.

 **Voicemail Pro VB Script License:** *IPO LIC VB SCRIPTING RFA LIC:DS (182300)*

This license allows VBScript commands to be included within Voicemail Pro call flows. VB Script can be used by programmers to perform actions such as playing and recording messages.

 **Voicemail Pro Database Interface License:** *IPO LIC 3RD PRTY IVR RFA LIC:DS (182298)*

This license allows Voicemail Pro to read and write information to and from a database that supports Windows ODBC. The information can be used within customized voicemail call flows, including being spoken on systems with a TTS license. This allows the creation of interactive voice response (IVR) solutions.

 **Voicemail Pro TTS (Generic) 8-port License:** *8 x IPO LIC 3RD PRTY TTS RFA LIC:CU (182303)*

This license enables up to 8 voicemail ports to use the default Text-To-Speech (TTS) speech engine supplied as part of Windows operating system or any other SAPI compliant speech engine. This allows the creation of automated call flows that speak results of IVR queries.

### **IP500 Voice Networking Licenses**

All voice networking functions are now covered under a single license:

VoiceNetworking Add 4 channels (Multisite Option). With R5, there is no longer any need for the Voice Networking Start 4 license or the Advanced Networking License. The existing Voice Networking Add 4 license is used to turn on networking and controls the number of available channels and is required on each site. As per earlier releases, the use of private voice networking trunks between IP500 control units and other systems requires voice networking channel licenses within the IP500. This applies to H323 IP trunks configured on the IP500 including IP trunks being used for an IP Office Small Community Network (SCN). A voice networking license is also required for the use of trunks configured to for QSIG operation. On H323/SCN IP trunk, a license instance is consumed for each simultaneous outgoing call (incoming calls do NOT consume a license). On QSIG trunk, the number of calls is limited by the trunk channels rather than available networking licenses.

 **IP500 Voice Networking (Additional Channels) License:** *IPO LIC IP500 VCE NTWKG ADD 4 LIC:CU (205650)*

This license enables 4 voice networking channels including the Advanced Networking features (distributed groups and hot-desking across Small Community Network). Additional licenses can be added to achieve the number of voice networking channels required.

### **New IP Office User Licenses**

#### **Mobile Worker**

This User Profile is targeted at users with mobile devices and no internet connection to the office, e.g. field sales and service staff who are often on the road. They are provided with functions such as one number access and call control as if “in the office”, enabling them to never miss a call.

The Mobile Worker license enables a user to be configured to use the IP Office Mobility features. Those features include Mobile Twinning, Mobile Call Control (IP500 only), one-X Mobile Client (IP500 only) and use of 3<sup>rd</sup>-party Text to Speech (TTS) for listening to your emails remotely. The license instances are consumed by a user being configured for any mobility feature.

-  **Mobile Worker License - 1 User:** *IPO LIC MOBILE WORKER RFA 1 (195569)*
-  **Mobile Worker License - 5 Users:** *IPO LIC MOBILE WORKER RFA 5 (195570)*
-  **Mobile Worker License - 20 Users:** *IPO LIC MOBILE WORKER RFA 20 (195572)*

### **Tele Worker**

This User Profile is targeted at users who are working from home (or elsewhere) with Internet connection to the office. In conjunction with an Avaya IP Phone (5610, 5621), they are provided which functions enabling them to be a user of the Head Office system, either through the built-in VPN capability of their IP Phone or the ability to leverage the PSTN/ISDN via Telecommuter mode, without incurring any remote phone charges.

The Teleworker license enables a user to use the VPN phone, Phone Manager Pro and one-X Portal for IP Office. The license instances are consumed for each user being configured.

-  **Tele Worker License - 1 User:** *IPO LIC TELE WORKER RFA 1 (227047)*
-  **Tele Worker License - 5 Users:** *IPO LIC TELEWORKER RFA 5 (227054)*
-  **Tele Worker License - 20 Users:** *IPO LIC TELEWORKER RFA 20 (227057)*

### **Power User**

This User Profile is targeted at key knowledge workers with the need for both Mobile Worker and Tele Worker functionality. Additionally, e-mail access to voicemail is provided including synchronization with any IMAP e-mail client (this requires Preferred Edition) as well as a PC softphone to save on call costs when travelling abroad.

The Power User license enables a user to use one-X Portal for IP Office, Phone Manager Pro, Phone Manager PC Softphone, all Mobility features, Unified Messaging Service (UMS) and VPN phone capability. The license instances are consumed for each user being configured.

-  **Power User License - 1 User:** *IPO LIC POWER USER RFA 1 (227046)*
-  **Power User License - 5 Users:** *IPO LIC POWER USER RFA 5 (227051)*
-  **Power User License - 20 Users:** *IPO LIC POWER USER RFA 20 (227056)*

### **Receptionist**

This User profile is targeted at operators/receptionists and provides a visual PC interface for call handling and management for multiple sites. Up to 4 of these users are supported on each site.

The Receptionist license enables a user to use IP Office SoftConsole. This is a Windows PC application intended for receptionists and operators. Up to 4 SoftConsoles can be licensed on a single IP Office system.

**Receptionist User License: *IPO LIC RECEPTIONIST RFA LIC:CU (171987)***

Enables the 1st instance and subsequent instances of the PC-based operator console. Additional licenses can be added for up to 4 SoftConsoles running at any time.

**Customer Service Agent**

This User Profile is targeted at employees who are responsible for fielding customer service calls. This agent license enables a user to use IP Office Customer Call Reporter. It provides them with a web browser interface to view key statistics in real-time and also allows supervisor to track their performance with IP Office Customer Call Reporter. Up to 150 agents can be licensed on IP Office Customer Call Reporter.

**Customer Service Agent License - 1 User: *IPO LIC CUSTMR SVC AGT RFA 1 (217650)***

**Customer Service Agent License - 5 Users: *IPO LIC CUSTMR SVC AGT RFA 5 (217651)***

**Customer Service Agent License - 20 Users: *IPO LIC CUSTMR SVC AGT RFA 20 (217653)***

**Customer Service Supervisor**

This User Profile enables service supervisors to track, measure and create reports for agent (or a group of agents) productivity via a web browser interface. This supervisor license enables a supervisor to use IP Office Customer Call Reporter. One Supervisor license is provided with Advanced Edition. Up to 30 supervisors can be licensed on IP Office Customer Call Reporter.

**Customer Service Supervisor License - 1 User: *IPO LIC CUSTMR SVC SPV RFA 1 (217655)***

**Customer Service Supervisor License - 10 Users: *IPO LIC CUSTMR SVC SPV RFA 10 (217656)***

**Customer Service Supervisor License - 20 Users: *IPO LIC CUSTMR SVC SPV RFA 20 (217657)***

**3rd Party IP End-Points Licenses**

Avaya IP phones supported by the IP Office can register with the IP Office without requiring any license. Other IP phones (SIP or H.323 devices) require an IP End-Point license and will consume one instance of that license. Note that Avaya cannot guarantee operation beyond making and receiving calls.

**IP End-Points License - 1 Phone: *IPO LIC IP40 IP ENDPOINT RFA 1 LIC:CU (174956)***

**IP End-Points License - 5 Phones: *IPO LIC IP ENDPOINT RFA 5 LIC:CU (174957)***

**IP End-Points License - 10 Phones: *IPO LIC IP ENDPOINT RFA 10 LIC:CU (174958)***

**IP End-Points License - 20 Phones: *IPO LIC IP ENDPOINT RFA 20 LIC:CU (174959)***

**IP End-Points License - 50 Phones: *IPO LIC IP ENDPOINT RFA 50 LIC:CU (174960)***

### **New Trial Licenses**

The following trial licenses can be requested. Each is valid for 60 days from the date of issue and can only be issued once for a particular IP Office Feature Key serial number. Apart from that restriction the trial license works the same as a full license.

 **Preferred Edition (system):** *IPO LIC PREFRD (VM PRO) TRIAL RFA LIC:DS (189782).*

 **Advanced Edition (system):** *IPO LIC ADVANCED RFA LIC:DS (227044).*

 **Power User (5 Users):** *IPO LIC POWR USER RFA TRIAL 5 LIC:CU (227052).*

 **Teleworker (5 Users) :** *IPO LIC TELEWORKER RFA TRIAL 5 LIC:CU (227052).*

 **Mobile Worker (5 Users):** *IPO LIC MOBILE WORKER TRIAL RFA 5 LIC CU (195574).*

 **Receptionist (1 User):** *IPO LIC RECEPTIONIST RFA 1 TRIAL LIC:CU (189783).*

 **Third-Party IP End Points (5 devices):** *IPO LIC IP ENDPOINT RFA 5 TRIAL (227040).*

*Issued by:*  
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